

# Electrical Contractors

# 1997

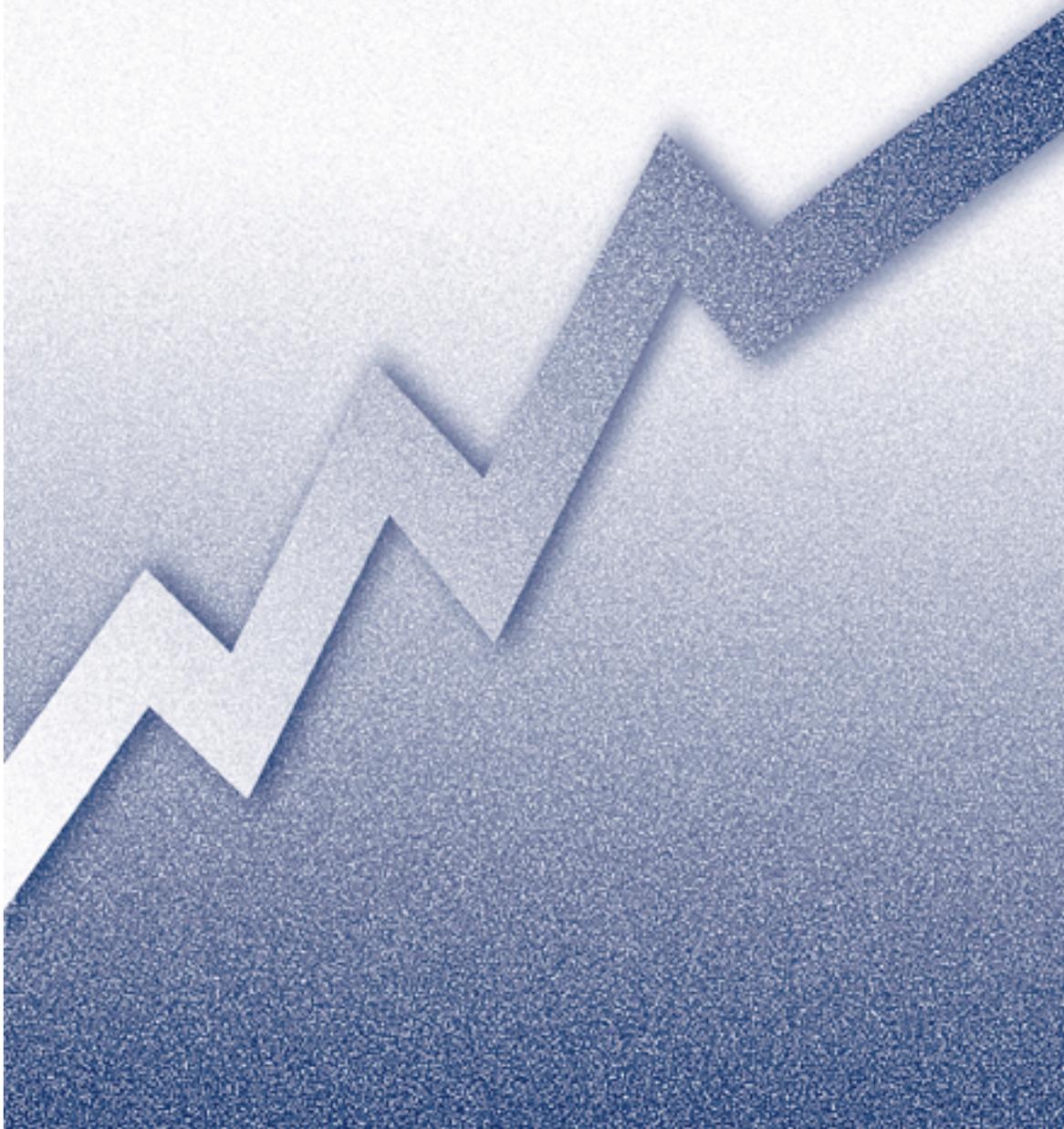
Issued September 1999

EC97C-2353A(RV)

## 1997 Economic Census

*Construction*

Industry Series



## U S C E N S U S B U R E A U

*Helping You Make Informed Decisions*

U.S. Department of Commerce  
Economics and Statistics Administration  
U.S. CENSUS BUREAU



## ACKNOWLEDGMENTS

Many persons participated in the various activities of the 1997 Economic Census for the Construction sector. The Economic Census Staff of the Economic Planning and Coordination Division did the overall planning and review of the census operations.

Manufacturing and Construction Division prepared this report. **Judy M. Dodds**, Assistant Chief for Census and Related Programs, was responsible for the overall planning, management, and coordination. **Patricia L. Horning**, Chief, Construction and Minerals Branch, assisted by **Susan L. Hostetter**, Section Chief, performed the planning and implementation. **Carla M. Bailey, Michael A. Blake, Tamara A. Cole, Nina S. Heggs, Donald G. Powers, Linda M. Taylor, and Robert A. Wright** provided primary staff assistance.

**Brian Greenberg**, Assistant Chief for Research and Methodology Programs, assisted by **Stacey Cole**, Chief of Manufacturing Programs Methodology Branch, provided the mathematical and statistical techniques as well as the coverage operations. **Cathy Ritenour** and **Robert Struble** provided primary staff assistance.

**Mendel D. Gayle**, Chief, Forms, Publications, and Customer Services Branch, assisted by **Julius Smith Jr.**, and **Baruti Taylor**, Section Chiefs, performed overall coordination of the publication process. **Kim Credito, Patrick Duck, Wanda L.W. Sledd, and Veronica White** provided primary staff assistance.

The Economic Planning and Coordination Division, **Lawrence A. Blum**, Assistant Chief for Collection Activities, was responsible for developing the systems and procedures for mailout, receipt, correspondence, data input, industry classification, clerical processing, administrative-record processing, and quality control.

The staff of the National Processing Center, **Judith N. Petty**, Chief, performed mailout preparation and receipt operations, clerical and analytical review activities, data keying, and geocoding review.

The Economic Product Team, with primary contributions from **Christina Arledge, Andrew W. Hait, Barbara L. Lambert, and Jennifer E. Lins**, was responsible for the development of the product creation system to support the 1997 Economic Census product dissemination.

The Geography Division staff developed geographic coding procedures and associated computer programs.

The Economic Statistical Methods and Programming Division, **Charles P. Pautler Jr.**, Chief, developed and coordinated the computer processing systems. **Martin S. Harahush**, Assistant Chief for Quinquennial Programs, was responsible for design and implementation of the computer systems. **Samuel Rozenel**, Chief, Current Construction Branch, **Kevin J. Montgomery** and **Leonard S. Sammarco**, Section Chiefs, supervised the preparation of the computer programs. **Jongmin Lee** and **Clifton D. Exley** provided primary staff assistance.

Computer Services Division, **Debra Williams**, Chief, performed the computer processing.

The staff of the Administrative and Customer Services Division, **Walter C. Odom**, Chief, performed publication planning, design, composition, editorial review, and printing planning and procurement for publications, Internet products, and report forms. **Bernadette J. Gayle** provided publication coordination and editing.

Special acknowledgment is also due the many businesses whose cooperation has contributed to the publication of these data.

## 1997 Economic Census

*Construction*

Industry Series



**U.S. Department of Commerce**

**William M. Daley,**

Secretary

**Robert L. Mallett,**

Deputy Secretary

**Economics**

**and Statistics**

**Administration**

**Robert J. Shapiro,**

Under Secretary for

Economic Affairs

**U.S. CENSUS BUREAU**

**Kenneth Prewitt,**

Director

---



**Economics  
and Statistics  
Administration**

**Robert J. Shapiro,**  
Under Secretary  
for Economic Affairs



**U.S. CENSUS BUREAU**

**Kenneth Prewitt,**  
Director

**William G. Barron,**  
Deputy Director

**Paula J. Schneider,**  
Principal Associate Director  
for Programs

**Frederick T. Knickerbocker,**  
Associate Director  
for Economic Programs

**Thomas L. Mesenbourg,**  
Assistant Director  
for Economic Programs

**William G. Bostic Jr.,**  
Chief, Manufacturing  
and Construction Division

## CONTENTS

|   |   |
|---|---|
| Introduction to the Economic Census ..... | 1 |
| Construction .....                        | 5 |

### TABLES

|   |    |
|---|----|
| 1. 1997 Data Showing the Derivation of the NAICS Classification<br>Based on the SIC Classification .....              | 7  |
| 2. Employment Statistics for Establishments With Payroll by State:<br>1997 .....                                      | 7  |
| 3. General Statistics for Establishments With Payroll by State:<br>1997 .....   | 8  |
| 4. Detailed Statistics for Establishments With Payroll: 1997 .....  | 9  |
| 5. Selected Statistics for Establishments With Payroll by<br>Employment Size Class: 1997 .....                        | 10 |
| 6. Selected Statistics for Establishments With Payroll by Dollar<br>Value of Business Done Size Class: 1997 .....     | 10 |
| 7. Value of Construction Work for Establishments With Payroll by<br>Type of Construction: 1997 .....                  | 11 |
| 8. Selected Statistics for Establishments With Payroll by<br>Specialization in Types of Construction: 1997 .....      | 12 |
| 9. Dollar Value of Business Done for Establishments With Payroll<br>by Kind-of-Business Activity: 1997 .....          | 14 |
| 10. Selected Statistics for Establishments With Payroll by<br>Specialization in Kind-of-Business Activity: 1997 ..... | 15 |
| 11. Value of Construction Work for Establishments With Payroll by<br>Location of Construction Work: 1997 .....        | 16 |

### APPENDIXES

|  |     |
|--|-----|
| A. Explanation of Terms .....                  | A-1 |
| B. NAICS Codes, Titles, and Descriptions ..... | B-1 |
| C. Coverage and Methodology .....              | C-1 |
| D. Geographic Notes .....                      | --  |
| E. Metropolitan Areas .....                    | --  |
| F. Detailed SIC Code Titles: 1997 .....        | F-1 |

-- Not applicable for this report.

# Introduction to the Economic Census

---

## PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

## ALL-NEW INDUSTRY CLASSIFICATIONS

Data from the 1997 Economic Census are published primarily on the basis of the North American Industry Classification System (NAICS), unlike earlier censuses, which were published according to the Standard Industrial Classification (SIC) system. NAICS is in the process of being adopted in the United States, Canada, and Mexico. Most economic census reports cover one of the following NAICS sectors:

|       |                                |
|-------|--------------------------------|
| 21    | Mining                         |
| 22    | Utilities                      |
| 23    | Construction                   |
| 31-33 | Manufacturing                  |
| 42    | Wholesale Trade                |
| 44-45 | Retail Trade                   |
| 48-49 | Transportation and Warehousing |
| 51    | Information                    |

|    |  |
|----|--|
| 52 | Finance and Insurance  |
| 53 | Real Estate and Rental and Leasing                                       |
| 54 | Professional, Scientific, and Technical Services                         |
| 55 | Management of Companies and Enterprises                                  |
| 56 | Administrative and Support and Waste Management and Remediation Services |
| 61 | Educational Services   |
| 62 | Health Care and Social Assistance  |
| 71 | Arts, Entertainment, and Recreation                                      |
| 72 | Accommodation and Foodservices   |
| 81 | Other Services (except Public Administration)                            |

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

## RELATIONSHIP TO SIC

While many of the individual NAICS industries correspond directly to industries as defined under the SIC system, most of the higher level groupings do not. Particular care should be taken in comparing data for retail trade, wholesale trade, and manufacturing, which are sector titles used in both NAICS and SIC, but cover somewhat different groups of industries. The industry definitions discuss the relationships between NAICS and SIC industries. Where changes are significant, it will not be possible to construct time series that include data for points both before and after 1997.

For 1997, data for auxiliary establishments (those functioning primarily to manage, service, or support the activities of their company's operating establishments, such as a central administrative office or warehouse) will not be included in the sector-specific reports. These data will be published separately.

## GEOGRAPHIC AREA CODING

Accurate and complete information on the physical location of each establishment is required to tabulate the census data for the states, metropolitan areas (MAs), counties, parishes, and corporate municipalities including cities, towns, villages, and boroughs. Respondents were

required to report their physical location (street address, municipality, county, and state) if it differed from their mailing address. For establishments not surveyed by mail (and those single-establishment companies that did not provide acceptable information on physical location), location information from Internal Revenue Service tax forms is used as a basis for coding.

## **BASIS OF REPORTING**

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

## **DOLLAR VALUES**

All dollar values presented are expressed in current dollars; i.e., 1997 data are expressed in 1997 dollars, and 1992 data, in 1992 dollars. Consequently, when making comparisons with prior years, users of the data should consider the changes in prices that have occurred.

All dollar values are shown in thousands of dollars.

## **AVAILABILITY OF ADDITIONAL DATA**

### **Reports in Print and Electronic Media**

All results of the 1997 Economic Census are available on the Census Bureau Internet site ([www.census.gov](http://www.census.gov)) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

### **Special Tabulations**

Special tabulations of data collected in the 1997 Economic Census may be obtained, depending on availability of time and personnel, in electronic or tabular form. The data will be summaries subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) that govern the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact specifications on the type and format of the data to be provided, should be directed to the Chief of the division named below, U.S. Census Bureau, Washington, DC 20233-8300. To discuss a special tabulation before submitting specifications, call the appropriate division:

|   |              |
|---|--------------|
| Manufacturing and Construction Division | 301-457-4673 |
| Service Sector Statistics Division      | 301-457-2668 |

## **HISTORICAL INFORMATION**

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

---

## SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at [www.census.gov/econguide](http://www.census.gov/econguide). More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at [www.census.gov/econ/www/history.html](http://www.census.gov/econ/www/history.html).

## ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used with the 1997 Economic Census data:

|   |  |
|---|--|
| A | Standard error of 100 percent or more.   |
| D | Withheld to avoid disclosing data of individual companies; data are included in higher level totals. |
| F | Exceeds 100 percent because data include establishments with payroll exceeding revenue.              |
| N | Not available or not comparable.   |
| Q | Revenue not collected at this level of detail for multiestablishment firms.                          |
| S | Withheld because estimates did not meet publication standards.                                       |

|      |  |
|------|--|
| V    | Represents less than 50 vehicles or .05 percent.                           |
| X    | Not applicable.  |
| Y    | Disclosure withheld because of insufficient coverage of merchandise lines. |
| Z    | Less than half the unit shown.   |
| a    | 0 to 19 employees.   |
| b    | 20 to 99 employees.  |
| c    | 100 to 249 employees.  |
| e    | 250 to 499 employees.  |
| f    | 500 to 999 employees.  |
| g    | 1,000 to 2,499 employees.  |
| h    | 2,500 to 4,999 employees.  |
| i    | 5,000 to 9,999 employees.  |
| j    | 10,000 to 24,999 employees.  |
| k    | 25,000 to 49,999 employees.  |
| l    | 50,000 to 99,999 employees.  |
| m    | 100,000 employees or more.   |
| p    | 10 to 19 percent estimated.  |
| q    | 20 to 29 percent estimated.  |
| r    | Revised.   |
| s    | Sampling error exceeds 40 percent.   |
| nec  | Not elsewhere classified.  |
| nsk  | Not specified by kind.   |
| –    | Represents zero (page image/print only).                                   |
| (CC) | Consolidated city.   |
| (IC) | Independent city.  |

---

This page is intentionally blank.

# Construction

---

## SCOPE

Construction, sector 23, includes establishments primarily engaged in construction work that have one or more paid employees. Construction work includes new construction work, additions, alterations, and repairs. Establishments identified as construction management firms are also included. The construction sector is divided into three types of activity or subsectors.

The Building, Developing, and General Contracting subsector includes establishments responsible for the construction of building projects. Builders, developers, and general contractors, as well as land subdividers and land developers are included in the subsector. The construction work may be done for others and performed by custom builders, general contractors, design builders, or turnkey contractors. This construction activity may be for sale as performed by speculative or operative builders.

The Heavy Construction subsector includes establishments engaged in the construction of heavy engineering and industrial projects (except buildings) such as highways, power plants, and pipelines. Establishments in this subsector usually assume responsibility for entire non-building projects, but may subcontract some or all of the actual construction work. Special trade contractors are included in this group if they are engaged in activities primarily related to heavy construction such as grading for highways. Kinds of establishments include heavy construction general contractors, and design builders.

The Special Trade Contractors subsector includes establishments engaged in specialized construction activities such as plumbing, painting, and electrical work. The activities in this subsector may be subcontracted from builders or general contractors, or the work may be performed directly for project owners. Special trade contractors usually perform most of their work at the job site, although they may have shops where they perform prefabrication and other work.

## GENERAL

A list of publications that provide statistics on construction, sector 23, follows.

**Industry reports.** There are 28 separate industry reports. They present data for a six-digit North American Industry Classification System (NAICS) industry. A description of the particular NAICS industry may be found in

Appendix B. These reports include statistics such as number of establishments, employment, payroll, value added, cost of materials, value of business done, and capital expenditures. Explanations of these and other terms may be found in Appendix A. The industry reports also include selected statistics for states.

**Geographic area reports.** There is a separate report for each state, the District of Columbia, and the United States. They present statistics similar to the industry reports for each state. They also present selected six-digit NAICS level data.

**Subject reports.** The Industry series, U.S. Summary, and Geographic Area series, U.S. Summary, reports present selected statistics from the individual industry and geographic area reports, as well as higher level aggregations.

## GEOGRAPHIC AREAS COVERED

The area reports for the construction industries contain state and regional level data. No substate data are available.

While most of the state data in the industry series reports are by physical location of the establishment, some data are available by reported location of the construction work.

The regions are made up of groups of states as follows:

### NORTHEAST

Connecticut  
Maine  
Massachusetts  
New Hampshire  
New Jersey  
New York  
Pennsylvania  
Rhode Island  
Vermont

### MIDWEST

Illinois  
Indiana  
Iowa  
Kansas  
Michigan  
Minnesota  
Missouri  
Nebraska

---

North Dakota  
Ohio  
South Dakota  
Wisconsin

#### SOUTH

Alabama  
Arkansas  
Delaware  
District of Columbia  
Florida  
Georgia  
Kentucky  
Louisiana  
Maryland  
Mississippi  
North Carolina  
Oklahoma  
South Carolina  
Tennessee  
Texas  
Virginia  
West Virginia

#### WEST

Alaska  
Arizona  
California  
Colorado  
Hawaii  
Idaho  
Montana  
Nevada  
New Mexico  
Oregon  
Utah  
Washington  
Wyoming

### COMPARABILITY OF THE 1992 AND 1997 CENSUSES

The adoption of the North American Industry Classification System (NAICS) had a major impact on the comparability of data between the 1992 and 1997 censuses. Less than half of the industries in the construction sector of NAICS have comparable industries in the Standard Industrial Classification (SIC) system that was used for past censuses. Because of the lack of comparable data, historic data are not shown for this sector.

Lead paint removal and asbestos abatement left the construction sector with the introduction of NAICS. Many changes took place within the sector, or from business

activity coming into the sector. Much of the change came from adding management services to each of the construction industries in the building, developing, and general contracting subsector and the heavy construction subsector. Also, land subdividers and developers, and rental of construction equipment with an operator were added to the sector.

Another change is that data for establishments with no employees are no longer included in the construction reports, but are available in other report series.

### DISCLOSURE

In accordance with Federal law governing census reports (Title 13 of the United States Code), no data are published that would disclose the operations of an individual establishment or company. However, the number of establishments classified in a specific industry or geography is not considered a disclosure, and may be released even when other information is withheld. Suppressed data are included in higher-level totals.

### AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

The County Business Patterns program of the U.S. Census Bureau offers annual statistics on the number of establishments, employment, and payroll classified by industry within each county and state.

The U.S. Census Bureau's monthly Construction Reports, Series C30, Value of New Construction Put in Place contain data related to construction sector census data. The main difference is that the C30 series covers all new construction put in place without regard to who is performing the construction activity. The construction sector census data covers both new construction and maintenance and repair work done by establishments classified in the construction industries. Significant amounts of construction are done by establishments classified outside of construction (real estate, manufacturing, utilities, and communications, for example), as both "force account" construction and construction done for others. In addition, the C30 series includes construction-related expenses such as architectural and engineering costs and the costs of materials supplied by owners which are normally not reflected in construction sector census data.

Data contained in the 1997 construction sector may also differ from industry data in Employment and Earnings Statistics, published by the Bureau of Labor Statistics and Statistics of Income, published by the Internal Revenue Service. These differences arise from varying definitions of scope, coverage, timing, classification, and methodology.

**Table 1. 1997 Data Showing the Derivation of the NAICS Classification Based on the SIC Classification**

[NAICS codes appear in bold type. Thousand dollars unless otherwise noted. Detail may not add to total because of rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see Appendix A. For a more detailed title for each SIC code shown, see Appendix F]

| NAICS and SIC code | Industry                                       | Number of establishments | Total number of employees | Payroll, all employees | Value of construction work | Net value of construction work | Value added       | Cost of materials, components, supplies, and fuels | Capital expenditures, other than land |
|--------------------|--|--------------------------|---------------------------|------------------------|----------------------------|--------------------------------|-------------------|--|---------------------------------------|
|                    |  | A                        | B                         | C                      | D                          | E                              | F                 | G  | H                                     |
| <b>235310</b>      | <b>Electrical contractors</b> .....            | <b>61 414</b>            | <b>641 985</b>            | <b>21 680 036</b>      | <b>64 260 292</b>          | <b>61 121 104</b>              | <b>38 580 524</b> | <b>23 195 354</b>                                  | <b>1 015 851</b>                      |
| 173100             | Electrical work special trade contractors..... | 61 414                   | 641 985                   | 21 680 036             | 64 260 292                 | 61 121 104                     | 38 580 524        | 23 195 354   | 1 015 851                             |

**Table 2. Employment Statistics for Establishments With Payroll by State: 1997**

[Thousand dollars unless otherwise noted. Detail may not add to total because of rounding. \* Indicates geographic change, but not applicable to this sector. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see Appendix A]

| Location of establishment             | Number of establishments | Number of employees |                      | Number of construction workers |                |                   |                     | Payroll (thousand dollars) |                      | Relative standard error of estimate (percent) for column— |
|---------------------------------------|--------------------------|---------------------|----------------------|--------------------------------|----------------|-------------------|---------------------|----------------------------|----------------------|---|
|                                       |                          | All                 | Construction workers | January to March               | April to June  | July to September | October to December | All employees              | Construction workers |   |
|                                       |                          |                     |                      |                                |                |                   |                     |                            |                      |   |
| <b>235310, ELECTRICAL CONTRACTORS</b> |                          |                     |                      |                                |                |                   |                     |                            |                      |   |
| <b>United States</b> .....            | <b>61 414</b>            | <b>641 985</b>      | <b>510 921</b>       | <b>482 658</b>                 | <b>498 478</b> | <b>532 341</b>    | <b>530 209</b>      | <b>21 680 036</b>          | <b>16 261 157</b>    | <b>1</b>  |
| Alabama .....                         | 897                      | 8 531               | 6 922                | 7 030                          | 6 789          | 6 955             | 6 912               | 221 431                    | 166 282              | 6   |
| Alaska .....                          | 222                      | 2 130               | 1 750                | 1 267                          | 1 625          | 2 442             | 1 665               | 91 361                     | 73 306               | 6   |
| Arizona .....                         | 1 051                    | 11 633              | 9 132                | 8 860                          | 9 498          | 9 251             | 8 918               | 341 882                    | 252 001              | 5   |
| Arkansas .....                        | 450                      | 3 485               | 2 921                | 2 936                          | 2 877          | 2 695             | 3 173               | 104 310                    | 80 381               | 8   |
| California .....                      | 6 011                    | 61 932              | 47 837               | 43 984                         | 46 328         | 50 416            | 50 620              | 2 369 837                  | 1 736 765            | 2   |
| Colorado .....                        | 1 355                    | 15 097              | 12 138               | 11 773                         | 11 773         | 12 582            | 12 624              | 508 400                    | 403 186              | 4   |
| Connecticut .....                     | 1 102                    | 7 264               | 5 646                | 5 290                          | 5 589          | 5 778             | 5 928               | 275 555                    | 198 271              | 7   |
| Delaware .....                        | 235                      | 2 602               | 2 101                | 1 904                          | 2 062          | 2 110             | 2 326               | 85 809                     | 66 271               | 10  |
| District of Columbia .....            | *40                      | 367                 | 270                  | 256                            | 272            | 292               | 261                 | 12 477                     | 8 286                | 7   |
| Florida .....                         | 3 775                    | 40 728              | 32 285               | 31 125                         | 30 561         | 33 010            | 34 446              | 1 072 319                  | 778 878              | 3   |
| Georgia .....                         | 1 879                    | 22 416              | 17 951               | 16 972                         | 17 494         | 18 415            | 18 924              | 664 250                    | 484 305              | 3   |
| Hawaii * .....                        | 269                      | 2 172               | 1 663                | 1 655                          | 1 729          | 1 622             | 1 645               | 87 945                     | 66 572               | 7   |
| Idaho .....                           | 405                      | 2 992               | 2 412                | 2 260                          | 2 379          | 2 559             | 2 448               | 93 423                     | 75 301               | 13  |
| Illinois .....                        | 2 561                    | 26 818              | 21 240               | 19 169                         | 20 446         | 22 827            | 22 520              | 1 190 557                  | 896 838              | 3   |
| Indiana .....                         | 1 178                    | 13 683              | 10 745               | 10 552                         | 10 531         | 11 059            | 10 836              | 489 358                    | 372 297              | 5   |
| Iowa .....                            | 651                      | 5 927               | 4 770                | 4 502                          | 4 639          | 4 957             | 4 982               | 194 493                    | 154 298              | 5   |
| Kansas .....                          | 543                      | 5 012               | 4 004                | 3 696                          | 3 754          | 4 203             | 4 362               | 180 916                    | 137 825              | 6   |
| Kentucky .....                        | 797                      | 9 092               | 7 420                | 7 287                          | 7 206          | 7 555             | 7 633               | 266 326                    | 203 678              | 6   |
| Louisiana .....                       | 966                      | 15 048              | 12 309               | 11 554                         | 12 664         | 12 491            | 12 525              | 429 212                    | 341 217              | 7   |
| Maine .....                           | 391                      | 2 203               | 1 815                | 1 620                          | 1 542          | 1 981             | 2 116               | 68 415                     | 53 940               | 8   |
| Maryland .....                        | 1 334                    | 14 449              | 11 413               | 10 814                         | 11 418         | 11 813            | 11 608              | 493 378                    | 363 047              | 3   |
| Massachusetts .....                   | 1 779                    | 14 693              | 11 663               | 11 227                         | 11 580         | 11 871            | 11 972              | 557 206                    | 420 737              | 4   |
| Michigan .....                        | 2 157                    | 24 523              | 20 121               | 18 716                         | 19 488         | 21 125            | 21 156              | 940 798                    | 741 997              | 6   |
| Minnesota .....                       | 1 299                    | 11 918              | 9 415                | 8 650                          | 9 175          | 10 051            | 9 784               | 440 042                    | 342 052              | 4   |
| Mississippi .....                     | 452                      | 3 941               | 3 310                | 3 257                          | 3 270          | 3 464             | 3 250               | 93 997                     | 73 849               | 9   |
| Missouri .....                        | 990                      | 12 425              | 10 043               | 9 564                          | 9 857          | 10 213            | 10 539              | 458 540                    | 342 722              | 3   |
| Montana .....                         | 271                      | 1 776               | 1 529                | 1 328                          | 1 529          | 1 618             | 1 639               | 48 693                     | 41 860               | 15  |
| Nebraska .....                        | 489                      | 4 499               | 3 582                | 3 520                          | 3 496          | 3 631             | 3 682               | 133 368                    | 97 454               | 5   |
| Nevada .....                          | 398                      | 6 614               | 5 398                | 5 433                          | 5 291          | 5 534             | 5 335               | 229 791                    | 174 928              | 6   |
| New Hampshire .....                   | 407                      | 2 465               | 1 980                | 1 807                          | 1 875          | 2 103             | 2 138               | 71 208                     | 52 100               | 8   |
| New Jersey .....                      | 2 661                    | 18 540              | 14 341               | 13 518                         | 13 856         | 14 892            | 15 098              | 738 422                    | 552 187              | 3   |
| New Mexico .....                      | 501                      | 4 488               | 3 690                | 3 367                          | 3 566          | 4 021             | 3 808               | 137 066                    | 106 846              | 8   |
| New York .....                        | 3 869                    | 41 413              | 33 069               | 30 708                         | 32 690         | 34 616            | 34 263              | 1 616 698                  | 1 240 186            | 2   |
| North Carolina .....                  | 2 295                    | 23 631              | 19 806               | 19 645                         | 19 498         | 20 280            | 19 800              | 639 751                    | 490 976              | 3   |
| North Dakota .....                    | 222                      | 1 257               | 1 011                | 916                            | 1 023          | 1 042             | 1 063               | 39 606                     | 30 935               | 12  |
| Ohio .....                            | 2 123                    | 24 576              | 19 113               | 17 666                         | 18 912         | 20 220            | 19 653              | 861 134                    | 634 667              | 3   |
| Oklahoma .....                        | 833                      | 5 689               | 4 033                | 4 143                          | 3 943          | 4 076             | 3 970               | 162 289                    | 104 770              | 6   |
| Oregon .....                          | 774                      | 8 888               | 6 936                | 6 537                          | 6 834          | 7 205             | 7 167               | 350 547                    | 267 429              | 4   |
| Pennsylvania .....                    | 2 523                    | 24 337              | 19 159               | 18 021                         | 18 342         | 20 151            | 20 122              | 866 670                    | 654 423              | 3   |
| Rhode Island .....                    | 304                      | 2 132               | 1 551                | 1 479                          | 1 513          | 1 580             | 1 633               | 72 116                     | 47 000               | 8   |
| South Carolina .....                  | 907                      | 10 838              | 8 941                | 8 901                          | 9 005          | 9 106             | 8 754               | 264 168                    | 205 217              | 4   |
| South Dakota .....                    | 224                      | 1 579               | 1 226                | 1 080                          | 1 289          | 1 297             | 1 240               | 38 053                     | 28 647               | 11  |
| Tennessee .....                       | 885                      | 14 082              | 11 713               | 10 944                         | 11 043         | 12 194            | 12 672              | 413 883                    | 306 632              | 6   |
| Texas .....                           | 3 547                    | 47 054              | 37 416               | 35 477                         | 36 584         | 39 337            | 38 265              | 1 383 989                  | 986 897              | 2   |
| Utah .....                            | 543                      | 6 066               | 5 157                | 5 114                          | 4 959          | 5 316             | 5 239               | 199 501                    | 164 568              | 7   |
| Vermont .....                         | 231                      | 1 162               | 908                  | 828                            | 830            | 1 028             | 945                 | 30 248                     | 21 689               | 8   |
| Virginia .....                        | 1 578                    | 19 218              | 15 166               | 14 023                         | 14 745         | 16 145            | 15 749              | 566 850                    | 400 721              | 3   |
| Washington .....                      | 1 317                    | 14 355              | 11 381               | 11 099                         | 11 685         | 11 766            | 11 685              | 517 424                    | 389 030              | 4   |
| West Virginia .....                   | 292                      | 2 611               | 2 122                | 2 045                          | 1 854          | 2 342             | 2 247               | 82 535                     | 67 755               | 7   |
| Wisconsin .....                       | 1 235                    | 12 394              | 9 433                | 8 597                          | 9 223          | 10 061            | 9 851               | 449 215                    | 334 200              | 4   |
| Wyoming .....                         | 195                      | 1 242               | 965                  | 867                            | 935            | 1 041             | 1 018               | 34 374                     | 25 738               | 10  |

**Table 3. General Statistics for Establishments With Payroll by State: 1997**

[Thousand dollars unless otherwise noted. Detail may not add to total because of rounding. \* Indicates geographic change, but not applicable to this sector. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see Appendix A]

| Location of establishment             | Value of construction work | Net value of construction work | Value added       | Cost of materials, components, supplies, and fuels | Cost of construction work subcontracted out to others | Rental cost of machinery, equipment, and buildings | Capital expenditures, other than land | End-of-year gross book value of depreciable assets | Relative standard error of estimate (percent) for column— |          |
|---------------------------------------|----------------------------|--------------------------------|-------------------|--|---|--|---------------------------------------|--|---|----------|
|                                       | A                          | B                              | C                 | D  | E   | F  | G                                     | H  | B   | G        |
| <b>235310, ELECTRICAL CONTRACTORS</b> |                            |                                |                   |  |   |  |                                       |  |   |          |
| <b>United States .....</b>            | <b>64 260 292</b>          | <b>61 121 104</b>              | <b>38 580 524</b> | <b>23 195 354</b>                                  | <b>3 139 188</b>                                      | <b>818 635</b>                                     | <b>1 015 851</b>                      | <b>7 612 438</b>                                   | <b>1</b>  | <b>1</b> |
| Alabama .....                         | 640 242                    | 623 353                        | 364 415           | 261 870  | 16 889  | 10 398   | 10 013                                | 108 099  | 5   | 13       |
| Alaska .....                          | 254 196                    | 247 506                        | 172 167           | 77 989   | 6 690   | 5 947  | 5 945                                 | 51 764   | 9   | 36       |
| Arizona .....                         | 983 060                    | 942 575                        | 572 417           | 385 163  | 40 485  | 18 124   | 19 360                                | 107 508  | 5   | 11       |
| Arkansas .....                        | 305 874                    | 299 471                        | 191 357           | 115 231  | 6 404   | 2 750  | 7 553                                 | 42 488   | 6   | 13       |
| California .....                      | 7 310 563                  | 6 838 469                      | 4 296 989         | 2 623 084  | 472 095   | 94 051   | 100 772                               | 770 119  | 2   | 5        |
| Colorado .....                        | 1 514 930                  | 1 426 138                      | 897 663           | 537 981  | 88 792  | 17 345   | 25 229                                | 179 984  | 4   | 7        |
| Connecticut .....                     | 861 376                    | 777 908                        | 467 605           | 311 180  | 83 468  | 9 216  | 14 133                                | 98 490   | 4   | 14       |
| Delaware .....                        | 236 661                    | 230 493                        | 153 689           | 80 586   | 6 169   | 3 381  | 3 011                                 | 23 701   | 7   | 10       |
| District of Columbia .....            | 31 303                     | 30 736                         | 22 045            | 8 691  | 567   | 365  | 845                                   | 4 319  | 5   | 5        |
| Florida .....                         | 3 386 397                  | 3 143 814                      | 1 858 183         | 1 300 569  | 242 583   | 46 939   | 53 409                                | 407 330  | 3   | 7        |
| Georgia .....                         | 2 006 166                  | 1 886 362                      | 1 071 763         | 821 346  | 119 804   | 23 634   | 31 818                                | 221 880  | 3   | 8        |
| Hawaii * .....                        | 282 201                    | 269 414                        | 169 066           | 101 840  | 12 787  | 6 654  | 3 481                                 | 47 847   | 6   | 14       |
| Idaho .....                           | 258 173                    | 249 767                        | 152 829           | 99 168   | 8 406   | 3 259  | 4 127                                 | 35 758   | 9   | 17       |
| Illinois .....                        | 3 236 197                  | 3 016 535                      | 1 973 307         | 1 072 042  | 219 662   | 37 537   | 42 601                                | 324 484  | 2   | 7        |
| Indiana .....                         | 1 369 687                  | 1 318 766                      | 837 274           | 504 266  | 50 920  | 14 808   | 22 445                                | 160 804  | 5   | 12       |
| Iowa .....                            | 582 602                    | 563 170                        | 329 702           | 240 238  | 19 432  | 6 924  | 15 076                                | 93 044   | 5   | 15       |
| Kansas .....                          | 536 595                    | 523 003                        | 319 702           | 210 786  | 13 592  | 4 391  | 11 421                                | 69 502   | 6   | 13       |
| Kentucky .....                        | 764 776                    | 738 249                        | 468 279           | 286 159  | 26 527  | 9 656  | 19 842                                | 117 867  | 5   | 15       |
| Louisiana .....                       | 1 256 125                  | 1 205 993                      | 803 416           | 407 348  | 50 132  | 16 859   | 13 770                                | 136 122  | 7   | 11       |
| Maine .....                           | 218 847                    | 212 496                        | 110 409           | 106 385  | 6 350   | 3 106  | 3 793                                 | 23 589   | 12  | 25       |
| Maryland .....                        | 1 396 292                  | 1 372 496                      | 835 437           | 546 152  | 23 796  | 15 194   | 22 453                                | 159 384  | 3   | 12       |
| Massachusetts .....                   | 1 736 146                  | 1 613 179                      | 1 018 189         | 610 649  | 122 967   | 21 744   | 22 086                                | 154 895  | 3   | 9        |
| Michigan .....                        | 2 817 775                  | 2 719 275                      | 1 864 933         | 874 912  | 98 500  | 39 038   | 48 177                                | 378 700  | 7   | 9        |
| Minnesota .....                       | 1 267 436                  | 1 222 542                      | 772 672           | 464 431  | 44 893  | 16 717   | 24 318                                | 169 763  | 3   | 9        |
| Mississippi .....                     | 284 307                    | 280 146                        | 199 644           | 85 922   | 4 161   | 3 822  | 7 965                                 | 49 019   | 9   | 8        |
| Missouri .....                        | 1 391 900                  | 1 336 399                      | 882 049           | 465 520  | 55 501  | 13 801   | 23 351                                | 197 579  | 3   | 12       |
| Montana .....                         | 156 127                    | 153 776                        | 93 525            | 61 359   | 2 352   | 2 279  | 3 811                                 | 26 232   | 17  | 20       |
| Nebraska .....                        | 396 958                    | 387 226                        | 250 279           | 147 016  | 9 733   | 4 042  | 8 496                                 | 61 887   | 3   | 15       |
| Nevada .....                          | 678 469                    | 661 828                        | 422 129           | 246 760  | 16 641  | 10 744   | 7 033                                 | 56 780   | 5   | 23       |
| New Hampshire .....                   | 227 319                    | 220 669                        | 123 657           | 97 013   | 6 650   | 2 952  | 3 272                                 | 27 883   | 10  | 25       |
| New Jersey .....                      | 2 163 704                  | 2 044 875                      | 1 215 083         | 836 703  | 118 830   | 28 434   | 28 789                                | 225 548  | 2   | 7        |
| New Mexico .....                      | 403 878                    | 378 188                        | 246 763           | 133 714  | 25 690  | 7 897  | 10 645                                | 63 756   | 5   | 16       |
| New York .....                        | 4 800 954                  | 4 575 114                      | 2 977 562         | 1 645 219  | 225 840   | 54 558   | 52 741                                | 491 074  | 2   | 6        |
| North Carolina .....                  | 1 990 324                  | 1 896 600                      | 1 298 424         | 609 989  | 93 724  | 21 601   | 37 256                                | 258 392  | 3   | 9        |
| North Dakota .....                    | 143 785                    | 140 020                        | 85 848            | 54 172   | 3 765   | 1 994  | 3 638                                 | 25 894   | 13  | 19       |
| Ohio .....                            | 2 449 981                  | 2 341 660                      | 1 484 990         | 882 427  | 108 322   | 30 253   | 41 144                                | 293 312  | 3   | 6        |
| Oklahoma .....                        | 583 260                    | 556 638                        | 352 661           | 205 568  | 26 622  | 6 186  | 8 899                                 | 71 694   | 7   | 13       |
| Oregon .....                          | 1 009 511                  | 957 716                        | 639 651           | 350 718  | 51 794  | 15 484   | 20 130                                | 107 574  | 3   | 11       |
| Pennsylvania .....                    | 2 573 472                  | 2 506 992                      | 1 629 358         | 935 570  | 66 480  | 26 404   | 40 868                                | 326 955  | 3   | 7        |
| Rhode Island .....                    | 237 713                    | 227 967                        | 137 715           | 90 515   | 9 746   | 2 978  | 4 143                                 | 30 540   | 6   | 34       |
| South Carolina .....                  | 742 387                    | 703 563                        | 450 180           | 262 701  | 38 824  | 10 946   | 13 231                                | 89 412   | 4   | 15       |
| South Dakota .....                    | 135 605                    | 131 176                        | 75 348            | 58 149   | 4 429   | 1 892  | 4 228                                 | 24 877   | 8   | 23       |
| Tennessee .....                       | 1 193 489                  | 1 102 142                      | 655 828           | 457 615  | 91 346  | 15 998   | 20 157                                | 141 541  | 4   | 9        |
| Texas .....                           | 4 059 156                  | 3 901 986                      | 2 409 182         | 1 526 316  | 157 170   | 55 891   | 67 734                                | 505 547  | 2   | 6        |
| Utah .....                            | 601 965                    | 577 366                        | 341 168           | 238 064  | 24 598  | 8 356  | 10 458                                | 71 367   | 5   | 7        |
| Vermont .....                         | 94 415                     | 92 876                         | 61 100            | 33 331   | 1 538   | 2 016  | 1 912                                 | 22 284   | 13  | 16       |
| Virginia .....                        | 1 611 741                  | 1 530 339                      | 946 090           | 598 194  | 81 402  | 22 407   | 23 253                                | 181 228  | 3   | 5        |
| Washington .....                      | 1 553 433                  | 1 461 206                      | 906 457           | 580 247  | 92 227  | 22 397   | 21 621                                | 157 678  | 3   | 7        |
| West Virginia .....                   | 190 599                    | 186 691                        | 122 437           | 66 337   | 3 908   | 3 019  | 2 706                                 | 38 699   | 9   | 20       |
| Wisconsin .....                       | 1 223 540                  | 1 192 216                      | 782 581           | 436 274  | 31 324  | 13 345   | 19 527                                | 155 316  | 4   | 10       |
| Wyoming .....                         | 108 684                    | 104 021                        | 67 311            | 41 874   | 4 663   | 901  | 3 166                                 | 22 931   | 11  | 24       |

**Table 4. Detailed Statistics for Establishments With Payroll: 1997**

[Thousand dollars unless otherwise noted. Detail may not add to total because of rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see Appendix A]

| Item  | Value      | Relative standard error of estimate (percent) | Item  | Value      | Relative standard error of estimate (percent) |
|---|------------|---|---|------------|---|
| <b>235310, ELECTRICAL CONTRACTORS</b>                   |            |   | <b>235310, ELECTRICAL CONTRACTORS— Con.</b>                             |            |   |
| Number of establishments in business during year        | 61 414     | Z   | Selected costs—Con.   |            |   |
| Number of proprietors and working partners              | 18 378     | 3   | Cost of selected power, fuels, and lubricants                           | 683 508    | 1   |
| Total number of employees                               | 641 985    | 1   | Cost of electricity   | 114 080    | 2   |
| Number of construction workers in March                 | 482 658    | 1   | Cost of natural gas and manufactured gas                                | 22 266     | 4   |
| Number of construction workers in May                   | 498 478    | 1   | Cost of gasoline and diesel fuel  | 524 526    | 1   |
| Number of construction workers in August                | 532 341    | 1   | Cost of on-highway use of gasoline and diesel fuel                      | 459 892    | 1   |
| Number of construction workers in November              | 530 209    | 1   | Cost of off-highway use of gasoline and diesel fuel                     | 64 634     | 4   |
| Average number of construction workers                  | 510 921    | 1   | Cost of all other fuels and lubricants                                  | 22 636     | 5   |
| Number of other employees in March                      | 130 144    | 1   | Rental cost for machinery, equipment, and buildings                     | 818 635    | 1   |
| Number of other employees in May                        | 129 045    | 1   | Rental cost for machinery and equipment                                 | 424 721    | 2   |
| Number of other employees in August                     | 131 382    | 1   | Rental cost for buildings   | 393 914    | 2   |
| Number of other employees in November                   | 133 684    | 1   | Selected purchased services   | 929 938    | 1   |
| Average number of other employees                       | 131 064    | 1   | Purchased communication services  | 441 342    | 1   |
| Payroll, all employees                                  | 21 680 036 | 1   | Cost of repairs to buildings and other structures                       | 82 717     | 3   |
| Payroll, construction workers                           | 16 261 157 | 1   | Cost of repairs to machinery and equipment                              | 405 879    | 2   |
| Payroll, other employees                                | 5 418 880  | 1   | Value of construction work  | 64 260 292 | 1   |
| First-quarter payroll, all employees                    | 4 967 395  | 1   | Value of construction work on government owned projects                 | 13 933 966 | 2   |
| Fringe benefits, all employees                          | 5 541 209  | 1   | Value of construction work on federally owned projects                  | 3 435 015  | 3   |
| Legally required expenditures                           | 2 997 627  | 1   | Value of construction work on state and locally owned projects          | 10 498 951 | 2   |
| Voluntary expenditures                                  | 2 543 582  | 1   | Value of construction work on privately owned projects                  | 50 326 328 | 1   |
| Value of business done                                  | 64 915 068 | 1   | Beginning-of-year gross book value of depreciable assets                | 6 830 391  | 1   |
| Value of construction work                              | 64 260 292 | 1   | Capital expenditures, other than land                                   | 1 015 851  | 1   |
| Value of construction work subcontracted in from others | 37 471 800 | 1   | Retirements and disposition of depreciable assets                       | 233 804    | 3   |
| Other business receipts                                 | 654 773    | 7   | End-of-year gross book value of depreciable assets                      | 7 612 438  | 1   |
| Net value of construction                               | 61 121 104 | 1   | Depreciation charges during year  | 897 384    | 1   |
| Value added   | 38 580 524 | 1   | Number of establishments with inventories                               | 25 070     | 2   |
| Selected costs  | 26 334 542 | 1   | Value of construction work for establishments with inventories          | 37 673 300 | 1   |
| Cost of materials, components, and supplies             | 22 511 846 | 1   | End of 1997, inventories of materials and supplies                      | 1 088 866  | 2   |
| Cost of construction work subcontracted out to others   | 3 139 188  | 1   | End of 1996, inventories of materials and supplies                      | 1 045 438  | 2   |
|   |            |   | Number of establishments with no inventories                            | 17 373     | 3   |
|   |            |   | Value of construction work for establishments with no inventories       | 15 738 830 | 2   |
|   |            |   | Number of establishments not reporting inventories                      | 18 971     | 2   |
|   |            |   | Value of construction work for establishments not reporting inventories | 10 848 162 | 2   |

**Table 5. Selected Statistics for Establishments With Payroll by Employment Size Class: 1997**

[Thousand dollars unless otherwise noted. Detail may not add to total because of rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see Appendix A]

| Employment size class                             | Number of establishments | Total number of employees | Total payroll     | Dollar value of business done | Value of construction work | Net value of construction work | Value added       | Cost of materials, components, supplies, and fuels | Cost of construction work subcontracted out to others | Relative standard error of estimate (percent) for column— |          |
|---|--------------------------|---------------------------|-------------------|-------------------------------|----------------------------|--------------------------------|-------------------|--|---|---|----------|
|   | A                        | B                         | C                 | D                             | E                          | F                              | G                 | H  | I   | B   | F        |
| <b>235310, ELECTRICAL CONTRACTORS</b>             |                          |                           |                   |                               |                            |                                |                   |  |   |   |          |
| <b>Total</b> .....                                | <b>61 414</b>            | <b>641 985</b>            | <b>21 680 036</b> | <b>64 915 068</b>             | <b>64 260 292</b>          | <b>61 121 104</b>              | <b>38 580 524</b> | <b>23 195 354</b>                                  | <b>3 139 188</b>                                      | <b>1</b>  | <b>1</b> |
| Establishments with 1 to 4 employees .....        | 34 960                   | 66 608                    | 1 473 961         | 5 633 716                     | 5 579 168                  | 5 449 314                      | 3 452 706         | 2 051 156  | 129 854   | 2   | 2        |
| Establishments with 5 to 9 employees .....        | 12 442                   | 81 320                    | 2 204 802         | 6 739 360                     | 6 681 356                  | 6 495 171                      | 4 159 081         | 2 394 094  | 186 186   | 3   | 3        |
| Establishments with 10 to 19 employees .....      | 7 226                    | 96 131                    | 2 960 022         | 8 740 029                     | 8 632 935                  | 8 326 769                      | 5 306 735         | 3 127 129  | 306 166   | 3   | 4        |
| Establishments with 20 to 49 employees .....      | 4 644                    | 139 092                   | 4 848 640         | 13 857 130                    | 13 651 527                 | 12 990 143                     | 8 297 390         | 4 898 356  | 661 384   | 3   | 2        |
| Establishments with 50 to 99 employees .....      | 1 337                    | 91 490                    | 3 513 487         | 10 072 390                    | 9 970 283                  | 9 490 243                      | 5 923 753         | 3 668 597  | 480 040   | 2   | 1        |
| Establishments with 100 to 249 employees .....    | 652                      | 94 172                    | 3 747 942         | 11 147 678                    | 11 094 360                 | 10 349 431                     | 6 365 778         | 4 036 971  | 744 929   | 2   | 2        |
| Establishments with 250 to 499 employees .....    | 114                      | 38 641                    | 1 581 536         | 4 623 135                     | 4 578 752                  | 4 241 132                      | 2 659 588         | 1 625 927  | 337 620   | Z   | Z        |
| Establishments with 500 to 999 employees .....    | 30                       | 20 451                    | 826 890           | 2 479 886                     | D                          | 2 288 617                      | 1 406 385         | D  | D   | Z   | Z        |
| Establishments with 1,000 employees or more ..... | 9                        | 14 081                    | 522 757           | 1 621 743                     | D                          | 1 490 285                      | 1 009 110         | D  | D   | Z   | Z        |

**Table 6. Selected Statistics for Establishments With Payroll by Dollar Value of Business Done Size Class: 1997**

[Thousand dollars unless otherwise noted. Detail may not add to total because of rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see Appendix A]

| Dollar value size class   | Number of establishments | Total number of employees | Total payroll     | Dollar value of business done | Value of construction work | Net value of construction work | Value added       | Cost of materials, components, supplies, and fuels | Cost of construction work subcontracted out to others | Relative standard error of estimate (percent) for column— |          |
|---|--------------------------|---------------------------|-------------------|-------------------------------|----------------------------|--------------------------------|-------------------|--|---|---|----------|
|   | A                        | B                         | C                 | D                             | E                          | F                              | G                 | H  | I   | B   | F        |
| <b>235310, ELECTRICAL CONTRACTORS</b>                                       |                          |                           |                   |                               |                            |                                |                   |  |   |   |          |
| <b>Total</b> .....  | <b>61 414</b>            | <b>641 985</b>            | <b>21 680 036</b> | <b>64 915 068</b>             | <b>64 260 292</b>          | <b>61 121 104</b>              | <b>38 580 524</b> | <b>23 195 354</b>                                  | <b>3 139 188</b>                                      | <b>1</b>  | <b>1</b> |
| Establishments with value of business done less than \$25,000 .....         | S                        | S                         | S                 | S                             | S                          | S                              | S                 | S  | S   | S   | S        |
| Establishments with value of business done \$25,000 to \$49,999 .....       | S                        | S                         | S                 | S                             | S                          | S                              | S                 | S  | S   | S   | S        |
| Establishments with value of business done \$50,000 to \$99,999 .....       | 7 364                    | 10 461                    | 161 057           | 551 761                       | 546 080                    | 537 784                        | 349 289           | 194 176  | S   | 5   | 4        |
| Establishments with value of business done \$100,000 to \$249,999 .....     | 16 304                   | 38 425                    | 766 289           | 2 673 754                     | 2 646 963                  | 2 600 588                      | 1 687 664         | 939 715  | 46 375  | 3   | 3        |
| Establishments with value of business done \$250,000 to \$499,999 .....     | 11 195                   | 53 118                    | 1 259 156         | 3 954 983                     | 3 916 133                  | 3 829 313                      | 2 472 589         | 1 395 573  | 86 820  | 4   | 3        |
| Establishments with value of business done \$500,000 to \$999,999 .....     | 8 898                    | 74 844                    | 2 099 360         | 6 259 783                     | 6 203 040                  | 6 039 031                      | 3 869 651         | 2 226 122  | 164 010   | 4   | 4        |
| Establishments with value of business done \$1,000,000 to \$2,499,999 ..... | 6 581                    | 110 162                   | 3 505 943         | 10 111 461                    | 9 975 179                  | 9 598 225                      | 6 154 377         | 3 580 131  | 376 954   | 3   | 3        |
| Establishments with value of business done \$2,500,000 to \$4,999,999 ..... | 2 744                    | 91 600                    | 3 248 132         | 9 422 485                     | 9 302 588                  | 8 902 586                      | 5 596 434         | 3 426 050  | 400 002   | 3   | 3        |
| Establishments with value of business done \$5,000,000 to \$9,999,999 ..... | 1 364                    | 84 493                    | 3 275 535         | 9 408 754                     | 9 287 792                  | 8 824 418                      | 5 577 108         | 3 368 273  | 463 374   | 2   | 2        |
| Establishments with value of business done \$10,000,000 or more .....       | 957                      | 174 365                   | 7 316 545         | 22 377 724                    | 22 229 154                 | 20 638 924                     | 12 774 041        | 8 013 452  | 1 590 231   | 1   | 1        |

**Table 7. Value of Construction Work for Establishments With Payroll by Type of Construction: 1997**

[Thousand dollars unless otherwise noted. Detail may not add to total because of rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see Appendix A]

| Type of construction   | Value of construction work |                   |   |                        | Relative standard error of estimate (percent) for column— |          |          |          |
|--|----------------------------|-------------------|---|------------------------|---|----------|----------|----------|
|  | Total                      | New construction  | Additions, alterations, or reconstruction | Maintenance and repair | A   | B        | C        | D        |
|  | A                          | B                 | C   | D                      | A   | B        | C        | D        |
| <b>235310, ELECTRICAL CONTRACTORS</b>  |                            |                   |   |                        |   |          |          |          |
| <b>Total</b>   | <b>64 260 292</b>          | <b>33 538 388</b> | <b>19 830 659</b>                         | <b>10 447 499</b>      | <b>1</b>  | <b>1</b> | <b>1</b> | <b>2</b> |
| <b>Building construction, total</b>  | <b>54 044 488</b>          | <b>28 002 140</b> | <b>17 241 711</b>                         | <b>8 800 637</b>       | <b>1</b>  | <b>1</b> | <b>1</b> | <b>2</b> |
| Single-family houses, detached and attached  | 7 679 897                  | 4 875 024         | 1 452 417                                 | 1 352 456              | 3   | 3        | 4        | 4        |
| Single-family houses, detached   | 6 645 574                  | 4 246 226         | 1 253 903                                 | 1 145 445              | 3   | 3        | 4        | 5        |
| Single-family houses, attached   | 1 034 323                  | 628 799           | 198 514                                   | 207 010                | 6   | 8        | 8        | 8        |
| Apartment buildings, apartment type condominiums and cooperatives                  | 1 897 372                  | 1 127 097         | 431 448                                   | 338 827                | 4   | 5        | 9        | 5        |
| All other residential buildings  | 136 500                    | 80 343            | 25 931                                    | 30 225                 | 13  | 18       | 11       | 24       |
| Manufacturing and light industrial buildings                                       | 9 787 646                  | 4 232 277         | 3 579 531                                 | 1 975 837              | 2   | 2        | 2        | 3        |
| Manufacturing and light industrial warehouses                                      | 2 279 996                  | 1 134 632         | 735 118                                   | 410 246                | 3   | 3        | 5        | 5        |
| Hotels and motels  | 1 353 833                  | 927 174           | 275 791                                   | 150 867                | 4   | 6        | 5        | 6        |
| Office buildings   | 10 899 370                 | 4 805 947         | 4 271 607                                 | 1 821 816              | 2   | 2        | 2        | 4        |
| All other commercial buildings, nec  | 7 109 264                  | 3 840 260         | 2 106 370                                 | 1 162 635              | 2   | 3        | 4        | 4        |
| Commercial warehouses  | 1 625 416                  | 937 624           | 420 100                                   | 267 692                | 4   | 4        | 8        | 8        |
| Religious buildings  | 739 401                    | 363 675           | 245 644                                   | 130 083                | 4   | 6        | 7        | 7        |
| Educational buildings  | 4 470 362                  | 2 333 675         | 1 715 354                                 | 421 333                | 3   | 4        | 4        | 6        |
| Health care and institutional buildings  | 3 697 500                  | 1 786 245         | 1 427 340                                 | 483 916                | 2   | 3        | 4        | 7        |
| Public safety buildings  | 967 552                    | 647 570           | 230 037                                   | 89 945                 | 7   | 10       | 12       | 10       |
| Farm buildings, nonresidential   | 243 299                    | 118 158           | 59 983                                    | 65 158                 | 10  | 14       | 13       | 12       |
| Amusement, social, and recreational buildings                                      | 680 526                    | 468 522           | 152 224                                   | 59 780                 | 3   | 4        | 5        | 10       |
| All other nonresidential buildings   | 476 553                    | 323 917           | 112 817                                   | 39 820                 | 14  | 19       | 20       | 16       |
| <b>Nonbuilding construction, total</b>   | <b>9 772 059</b>           | <b>5 536 248</b>  | <b>2 588 948</b>                          | <b>1 646 862</b>       | <b>3</b>  | <b>3</b> | <b>4</b> | <b>7</b> |
| Highways, streets, and related work  | 1 745 802                  | 1 165 370         | 374 343                                   | 206 088                | 7   | 7        | 8        | 11       |
| Power and communication transmission lines, cables, towers, and related facilities | 4 504 212                  | 2 644 951         | 1 100 130                                 | 759 131                | 5   | 4        | 7        | 14       |
| Power plants   | 435 972                    | 210 373           | 153 216                                   | 72 384                 | 4   | 7        | 3        | 7        |
| Power and cogeneration plants, except hydroelectric                                | 361 724                    | 165 302           | 137 629                                   | 58 793                 | 3   | 5        | 2        | 6        |
| Power plants, hydroelectric  | 74 248                     | 45 071            | 15 587                                    | 13 591                 | 17  | 26       | 21       | 14       |
| Blast furnaces, petroleum refineries, chemical complexes, etc                      | 716 095                    | 241 955           | 221 940                                   | 252 200                | 5   | 7        | 7        | 5        |
| Sewage and water treatment plants  | 906 959                    | 447 094           | 343 662                                   | 116 203                | 6   | 4        | 12       | 12       |
| Sewage treatment plants  | 509 657                    | 263 285           | 179 728                                   | 66 645                 | 5   | 4        | 10       | 17       |
| Water treatment plants   | 397 302                    | 183 809           | 163 934                                   | 49 558                 | 7   | 6        | 15       | 12       |
| Mass transit construction  | 454 267                    | 249 186           | 177 675                                   | 27 405                 | 2   | 2        | 2        | 11       |
| Urban mass transit construction  | 376 161                    | 192 667           | 161 529                                   | 21 965                 | 2   | 3        | 1        | 6        |
| Railroad construction  | 78 106                     | 56 519            | 16 147                                    | 5 440                  | 7   | 1        | 14       | 48       |
| Other nonbuilding construction, nec  | 1 008 751                  | 577 319           | 217 981                                   | 213 451                | 11  | 14       | 10       | 25       |
| <b>Construction work, nsk</b>  | <b>443 749</b>             | <b>X</b>          | <b>X</b>                                  | <b>X</b>               | <b>2</b>  | <b>X</b> | <b>X</b> | <b>X</b> |

**Table 8. Selected Statistics for Establishments With Payroll by Specialization in Types of Construction: 1997**

[Thousand dollars unless otherwise noted. Detail may not add to total because of rounding. This table presents selected statistics for establishments according to degree of specialization in major types of construction work. If number of establishments or value of construction work for a given type of specialization are relatively insignificant, data may not be shown. In addition, data are not shown in this table where distribution of the value of construction work by type of construction was not provided in Table 7. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see Appendix A.]

| Item   | Number of establishments | Total number of employees | Payroll, all employees | Value of construction work |                      | Net value of construction work | Value added        | Cost of construction work subcontracted out to others | Relative standard error of estimate (percent) for column— |    |    |
|--|--------------------------|---------------------------|------------------------|----------------------------|----------------------|--------------------------------|--------------------|---|---|----|----|
|  |                          |                           |                        | For all types              | For specialized type |                                |                    |   | B   | D  | H  |
|  |                          |                           |                        | D                          | E                    |                                |                    |   |   |    |    |
| A  | B                        | C                         | D                      | E                          | F                    | G                              | H                  | B   | D   | H  |    |
| <b>235310, ELECTRICAL CONTRACTORS</b>                                    |                          |                           |                        |                            |                      |                                |                    |   |   |    |    |
| Total .....  | 61 414                   | 641 985                   | 21 680 036             | 64 260 292                 | X                    | 61 121 104                     | 38 580 524         | 3 139 188   | 1   | 1  | 1  |
| Establishments not specializing ..                                       | 19 210                   | 262 987                   | 9 240 997              | 27 645 686                 | X                    | 26 223 495                     | 16 196 853         | 1 422 190   | 2   | 1  | 2  |
| Establishments specializing 51 percent or more .....                     | 42 205                   | 378 997                   | 12 439 040             | 36 614 610                 | 29 809 496           | 34 897 612                     | 22 383 672         | 1 716 998   | 1   | 1  | 2  |
| <b>Single-family houses, detached and attached</b>                       |                          |                           |                        |                            |                      |                                |                    |   |   |    |    |
| All establishments specializing .....                                    | 19 295                   | 83 347                    | 2 057 912              | 6 304 066                  | 5 136 203            | 6 130 365                      | 3 884 085          | 173 701   | 3   | 4  | 8  |
| Specialization 100 percent .....   | S                        | 25 183                    | 574 879                | 1 813 276                  | 1 813 276            | 1 766 705                      | 1 108 288          | 46 572  | 6   | 6  | 16 |
| Specialization 90 to 99 percent ...                                      | 3 095                    | 13 608                    | 345 321                | 1 025 845                  | 957 823              | 1 009 444                      | 644 871            | 16 401  | 9   | 9  | 22 |
| Specialization 80 to 89 percent ...                                      | 2 456                    | 11 343                    | 291 171                | 871 028                    | 710 606              | 847 395                        | 541 456            | 23 633  | 10  | 11 | 28 |
| Specialization 70 to 79 percent ...                                      | 2 961                    | 12 715                    | 315 363                | 950 909                    | 691 882              | 932 745                        | 600 190            | S   | 9   | 9  | S  |
| Specialization 60 to 69 percent ...                                      | 2 375                    | 12 515                    | 313 805                | 954 207                    | 597 435              | 920 083                        | 567 167            | 34 124  | 10  | 10 | 7  |
| Specialization 51 to 59 percent ...                                      | 846                      | 7 983                     | 217 373                | 688 800                    | 365 180              | 653 993                        | 422 113            | 34 807  | 15  | 16 | 23 |
| <b>Apartment buildings, apartment type condominiums and cooperatives</b> |                          |                           |                        |                            |                      |                                |                    |   |   |    |    |
| All establishments specializing .....                                    | 1 076                    | 8 626                     | 239 491                | 717 902                    | 554 881              | 691 225                        | 420 819            | 26 677  | 13  | 13 | 28 |
| Specialization 100 percent .....   | 235                      | 1 305                     | 36 765                 | 118 418                    | 118 418              | 114 832                        | 64 933             | 3 586   | 21  | 22 | 9  |
| Specialization 90 to 99 percent ...                                      | 181                      | 1 736                     | 43 346                 | 107 091                    | 100 098              | 104 841                        | 70 453             | S   | 34  | 30 | S  |
| Specialization 80 to 89 percent ...                                      | 249                      | 1 302                     | 31 287                 | 107 119                    | 89 035               | 103 400                        | 55 591             | S   | 22  | 24 | S  |
| Specialization 70 to 79 percent ...                                      | <sup>*63</sup>           | <sup>*1 315</sup>         | <sup>*39 091</sup>     | <sup>*120 268</sup>        | <sup>*87 066</sup>   | <sup>*117 317</sup>            | <sup>*75 998</sup> | <sup>*2 951</sup>                                     | 46  | 43 | 57 |
| Specialization 60 to 69 percent ...                                      | 306                      | 2 345                     | 72 114                 | 215 353                    | 134 130              | 203 058                        | 121 088            | <sup>*12 295</sup>                                    | 24  | 23 | 54 |
| Specialization 51 to 59 percent ...                                      | <sup>*41</sup>           | <sup>*623</sup>           | <sup>*16 889</sup>     | <sup>*49 652</sup>         | <sup>*26 135</sup>   | <sup>*47 777</sup>             | <sup>*32 756</sup> | S   | 60  | 67 | S  |
| <b>Manufacturing and light industrial buildings</b>                      |                          |                           |                        |                            |                      |                                |                    |   |   |    |    |
| All establishments specializing .....                                    | 4 399                    | 71 401                    | 2 583 302              | 7 066 902                  | 5 265 869            | 6 739 972                      | 4 494 599          | 326 930   | 3   | 2  | 3  |
| Specialization 100 percent .....   | 1 286                    | 10 896                    | 377 429                | 1 052 606                  | 1 052 606            | 999 339                        | 632 732            | 53 267  | 8   | 8  | 11 |
| Specialization 90 to 99 percent ...                                      | 650                      | 10 754                    | 379 864                | 1 021 351                  | 954 907              | 977 770                        | 630 510            | 43 580  | 8   | 8  | 12 |
| Specialization 80 to 89 percent ...                                      | S                        | 7 097                     | 263 012                | 678 637                    | 559 617              | 650 329                        | 453 695            | 19 308  | 12  | 10 | 16 |
| Specialization 70 to 79 percent ...                                      | 844                      | 11 232                    | 443 126                | 1 236 113                  | 897 476              | 1 175 136                      | 759 512            | 60 977  | 7   | 6  | 8  |
| Specialization 60 to 69 percent ...                                      | 847                      | 14 667                    | 557 537                | 1 614 779                  | 1 008 510            | 1 535 816                      | 1 034 035          | 78 963  | 6   | 5  | 4  |
| Specialization 51 to 59 percent ...                                      | 313                      | 16 766                    | 562 334                | 1 463 415                  | 792 754              | 1 392 582                      | 984 115            | 70 834  | 6   | 4  | 3  |
| <b>Manufacturing and light industrial warehouses</b>                     |                          |                           |                        |                            |                      |                                |                    |   |   |    |    |
| All establishments specializing .....                                    | 537                      | 3 926                     | 134 232                | 392 863                    | 318 432              | 382 598                        | 251 880            | 10 265  | 15  | 14 | 23 |
| Specialization 100 percent .....   | 171                      | 1 293                     | 40 964                 | 121 902                    | 121 902              | 115 803                        | 87 631             | 6 100   | 23  | 21 | 33 |
| Specialization 80 to 89 percent ...                                      | S                        | 1 069                     | 37 604                 | 124 683                    | 105 366              | 122 515                        | 73 623             | <sup>*2 168</sup>                                     | 32  | 31 | 52 |
| Specialization 70 to 79 percent ...                                      | S                        | 402                       | 16 690                 | 45 756                     | 34 454               | 44 932                         | 27 618             | 824   | 29  | 26 | Z  |
| Specialization 60 to 69 percent ...                                      | <sup>*38</sup>           | <sup>*380</sup>           | 12 612                 | 33 367                     | 20 357               | 32 506                         | 20 504             | <sup>*861</sup>                                       | 49  | 32 | 58 |
| Specialization 51 to 59 percent ...                                      | S                        | <sup>*782</sup>           | 26 361                 | 67 155                     | 36 353               | 66 843                         | 42 504             | 312   | 40  | 36 | Z  |
| <b>Office buildings</b>  |                          |                           |                        |                            |                      |                                |                    |   |   |    |    |
| All establishments specializing .....                                    | 3 772                    | 62 134                    | 2 395 613              | 6 897 870                  | 5 598 042            | 6 575 751                      | 4 175 987          | 322 119   | 3   | 3  | 5  |
| Specialization 100 percent .....   | 1 500                    | 19 567                    | 705 331                | 2 016 727                  | 2 016 727            | 1 923 007                      | 1 269 954          | 93 721  | 7   | 6  | 9  |
| Specialization 90 to 99 percent ...                                      | 442                      | 7 804                     | 322 645                | 983 366                    | 906 889              | 942 173                        | 580 066            | 41 193  | 7   | 6  | 10 |
| Specialization 80 to 89 percent ...                                      | 383                      | 7 769                     | 285 809                | 794 835                    | 657 234              | 762 483                        | 488 221            | 32 352  | 11  | 9  | 14 |
| Specialization 70 to 79 percent ...                                      | 635                      | 11 290                    | 432 443                | 1 263 149                  | 920 641              | 1 205 293                      | 736 923            | 57 857  | 9   | 9  | 15 |
| Specialization 60 to 69 percent ...                                      | 590                      | 10 212                    | 431 127                | 1 234 347                  | 768 062              | 1 171 331                      | 741 012            | 63 016  | 9   | 7  | 9  |
| Specialization 51 to 59 percent ...                                      | 222                      | 5 492                     | 218 257                | 605 445                    | 328 488              | 571 464                        | 359 811            | 33 981  | 11  | 9  | 7  |
| <b>All other commercial buildings, nec</b>                               |                          |                           |                        |                            |                      |                                |                    |   |   |    |    |
| All establishments specializing .....                                    | 4 044                    | 39 683                    | 1 282 971              | 3 923 564                  | 3 184 129            | 3 773 581                      | 2 375 254          | 149 983   | 5   | 5  | 7  |
| Specialization 100 percent .....   | 1 432                    | 13 747                    | 453 009                | 1 387 367                  | 1 387 367            | 1 319 076                      | 846 186            | 68 291  | 10  | 9  | 11 |
| Specialization 90 to 99 percent ...                                      | 447                      | 3 781                     | 116 172                | 342 072                    | 317 520              | 334 496                        | 219 007            | 7 576   | 17  | 15 | 17 |
| Specialization 80 to 89 percent ...                                      | 758                      | 5 617                     | 180 641                | 563 757                    | 459 462              | 545 703                        | 325 095            | 18 055  | 17  | 15 | 22 |
| Specialization 70 to 79 percent ...                                      | 440                      | 5 404                     | 181 053                | 543 086                    | 393 327              | 520 053                        | 331 951            | 23 032  | 13  | 14 | 25 |
| Specialization 60 to 69 percent ...                                      | 626                      | 6 279                     | 193 740                | 579 153                    | 357 861              | 561 435                        | 344 848            | 17 718  | 13  | 11 | 13 |
| Specialization 51 to 59 percent ...                                      | 340                      | 4 856                     | 158 355                | 508 129                    | 268 593              | 492 818                        | 308 168            | 15 311  | 15  | 18 | 19 |

**Table 8. Selected Statistics for Establishments With Payroll by Specialization in Types of Construction: 1997—Con.**

[Thousand dollars unless otherwise noted. Detail may not add to total because of rounding. This table presents selected statistics for establishments according to degree of specialization in major types of construction work. If number of establishments or value of construction work for a given type of specialization are relatively insignificant, data may not be shown. In addition, data are not shown in this table where distribution of the value of construction work by type of construction was not provided in Table 7. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see Appendix A.]

| Item   | Number of establishments | Total number of employees | Payroll, all employees | Value of construction work |                      | Net value of construction work | Value added        | Cost of construction work subcontracted out to others | Relative standard error of estimate (percent) for column— |    |    |
|--|--------------------------|---------------------------|------------------------|----------------------------|----------------------|--------------------------------|--------------------|---|---|----|----|
|  |                          |                           |                        | For all types              | For specialized type |                                |                    |   | B   | D  | H  |
|  |                          |                           |                        | D                          | E                    |                                |                    |   |   |    |    |
| A  | B                        | C                         | D                      | E                          | F                    | G                              | H                  | B   | D   | H  |    |
| <b>235310, ELECTRICAL CONTRACTORS—Con.</b>                           |                          |                           |                        |                            |                      |                                |                    |   |   |    |    |
| <b>Commercial warehouses</b>   |                          |                           |                        |                            |                      |                                |                    |   |   |    |    |
| All establishments specializing .....                                | 402                      | 3 078                     | 106 967                | 296 469                    | 241 472              | 285 041                        | 189 296            | 11 428  | 18  | 15 | 17 |
| Specialization 100 percent .....                                     | 172                      | 621                       | 18 287                 | 58 575                     | 58 575               | 54 629                         | 40 554             | S   | 38  | 36 | S  |
| Specialization 90 to 99 percent ...                                  | <sup>§41</sup>           | <sup>§596</sup>           | <sup>§20</sup> 180     | <sup>§56</sup> 595         | <sup>§54</sup> 140   | D                              | <sup>§36</sup> 143 | D   | 56  | 44 | D  |
| Specialization 80 to 89 percent ...                                  | <sup>§71</sup>           | 483                       | 19 321                 | 60 787                     | 48 630               | 59 380                         | 39 661             | 1 407   | 35  | 29 | 19 |
| Specialization 70 to 79 percent ...                                  | <sup>§59</sup>           | <sup>§605</sup>           | <sup>§20</sup> 787     | 49 930                     | 37 000               | 47 540                         | <sup>§30</sup> 682 | 2 390   | 41  | 39 | 38 |
| Specialization 60 to 69 percent ...                                  | <sup>§38</sup>           | 432                       | 18 080                 | 45 930                     | 29 362               | 44 034                         | 28 923             | 1 896   | 29  | 18 | 5  |
| Specialization 51 to 59 percent ...                                  | <sup>§21</sup>           | <sup>§341</sup>           | <sup>§10</sup> 312     | <sup>§24</sup> 653         | <sup>§13</sup> 766   | D                              | <sup>§13</sup> 333 | D   | 55  | 52 | D  |
| <b>Educational buildings</b>   |                          |                           |                        |                            |                      |                                |                    |   |   |    |    |
| All establishments specializing .....                                | 1 556                    | 21 003                    | 704 826                | 2 089 571                  | 1 539 797            | 1 974 593                      | 1 185 667          | 114 978   | 8   | 8  | 13 |
| Specialization 100 percent .....                                     | S                        | 1 538                     | 58 138                 | 172 548                    | 172 548              | 163 042                        | 99 320             | <sup>§9</sup> 506                                     | 32  | 31 | 57 |
| Specialization 90 to 99 percent ...                                  | 222                      | 1 516                     | 52 073                 | 163 073                    | 156 623              | 153 930                        | 93 232             | S   | 34  | 34 | S  |
| Specialization 80 to 89 percent ...                                  | 233                      | 3 620                     | 115 661                | 333 632                    | 275 835              | 315 639                        | 183 559            | 17 993  | 17  | 13 | 9  |
| Specialization 70 to 79 percent ...                                  | 481                      | 6 739                     | 218 722                | 679 908                    | 492 124              | 655 429                        | 402 712            | 24 478  | 15  | 14 | 22 |
| Specialization 60 to 69 percent ...                                  | 288                      | 5 251                     | 184 180                | 527 854                    | 328 177              | 493 298                        | 289 763            | 34 556  | 14  | 15 | 20 |
| Specialization 51 to 59 percent ...                                  | 131                      | 2 338                     | 76 052                 | 212 556                    | 114 491              | 193 254                        | 117 082            | 19 302  | 27  | 24 | 35 |
| <b>Health care and institutional buildings</b>                       |                          |                           |                        |                            |                      |                                |                    |   |   |    |    |
| All establishments specializing .....                                | 537                      | 7 965                     | 294 492                | 873 680                    | 640 301              | 819 012                        | 521 737            | 54 667  | 13  | 11 | 11 |
| Specialization 100 percent .....                                     | <sup>§83</sup>           | 558                       | 19 289                 | <sup>§58</sup> 396         | <sup>§58</sup> 396   | <sup>§58</sup> 030             | <sup>§30</sup> 269 | 366   | 34  | 44 | 19 |
| Specialization 90 to 99 percent ...                                  | <sup>§23</sup>           | <sup>§35</sup>            | <sup>§24</sup> 558     | <sup>§67</sup> 518         | <sup>§63</sup> 152   | <sup>§63</sup> 261             | 41 255             | 4 157   | 42  | 40 | 20 |
| Specialization 80 to 89 percent ...                                  | <sup>§61</sup>           | 1 621                     | 58 316                 | 191 209                    | 157 342              | 170 201                        | 107 027            | 21 008  | 38  | 29 | 20 |
| Specialization 70 to 79 percent ...                                  | 173                      | 1 631                     | 61 847                 | 187 532                    | 136 853              | 178 434                        | 116 562            | <sup>§9</sup> 098                                     | 26  | 26 | 43 |
| Specialization 60 to 69 percent ...                                  | 177                      | 2 815                     | 100 188                | 279 507                    | 174 988              | 264 714                        | 177 396            | 14 793  | 23  | 18 | 17 |
| Specialization 51 to 59 percent ...                                  | <sup>§20</sup>           | 804                       | 30 295                 | 89 518                     | 49 571               | 84 272                         | 49 227             | 5 246   | 14  | 12 | 7  |
| <b>Highways, streets, and related work</b>                           |                          |                           |                        |                            |                      |                                |                    |   |   |    |    |
| All establishments specializing .....                                | 504                      | 9 678                     | 371 577                | 1 252 385                  | 1 127 744            | 1 170 644                      | 686 421            | 81 742  | 10  | 9  | 8  |
| Specialization 100 percent .....                                     | 394                      | 5 774                     | 211 489                | 725 168                    | 725 168              | 679 369                        | 384 418            | 45 798  | 14  | 13 | 12 |
| Specialization 90 to 99 percent ...                                  | <sup>§34</sup>           | <sup>§994</sup>           | <sup>§36</sup> 623     | <sup>§123</sup> 596        | <sup>§116</sup> 375  | <sup>§117</sup> 963            | <sup>§69</sup> 165 | <sup>§5</sup> 632                                     | 45  | 44 | 50 |
| Specialization 80 to 89 percent ...                                  | <sup>§20</sup>           | 985                       | 46 157                 | 144 375                    | 119 372              | 134 028                        | 85 379             | 10 347  | 23  | 15 | Z  |
| Specialization 70 to 79 percent ...                                  | <sup>§28</sup>           | 1 004                     | 39 053                 | 133 114                    | 97 065               | 122 865                        | 80 922             | 10 249  | 25  | 9  | Z  |
| Specialization 60 to 69 percent ...                                  | <sup>§9</sup>            | <sup>§300</sup>           | <sup>§10</sup> 988     | <sup>§36</sup> 447         | <sup>§21</sup> 868   | <sup>§34</sup> 424             | <sup>§21</sup> 455 | S   | 68  | 68 | S  |
| Specialization 51 to 59 percent ...                                  | <sup>§18</sup>           | 621                       | 27 267                 | 89 686                     | 47 896               | 81 994                         | 45 081             | 7 692   | 24  | 23 | 38 |
| <b>Blast furnaces, petroleum refineries, chemical complexes, etc</b> |                          |                           |                        |                            |                      |                                |                    |   |   |    |    |
| All establishments specializing .....                                | 81                       | 6 662                     | 246 746                | 626 408                    | 474 687              | 601 001                        | 406 570            | 25 407  | 10  | 8  | 9  |
| Specialization 100 percent .....                                     | 15                       | 1 641                     | 68 827                 | 131 276                    | 131 276              | 126 521                        | 86 054             | 4 755   | 10  | 18 | 3  |
| Specialization 90 to 99 percent ...                                  | <sup>§12</sup>           | 882                       | 30 481                 | 64 156                     | 59 267               | 62 495                         | 51 739             | 1 661   | 10  | 15 | 1  |
| Specialization 80 to 89 percent ...                                  | 4                        | 418                       | 14 447                 | 47 268                     | 39 741               | 44 190                         | 30 278             | 3 078   | Z   | Z  | Z  |
| Specialization 70 to 79 percent ...                                  | 5                        | 987                       | 32 400                 | 103 772                    | 77 992               | 100 182                        | 63 337             | 3 590   | Z   | Z  | Z  |
| Specialization 60 to 69 percent ...                                  | <sup>§21</sup>           | 2 334                     | 81 170                 | 226 602                    | 137 621              | 218 763                        | 143 784            | 7 839   | 28  | 18 | 30 |
| Specialization 51 to 59 percent ...                                  | S                        | 401                       | 19 420                 | 53 335                     | 28 790               | 48 851                         | 31 377             | 4 484   | 5   | 5  | Z  |

Table 9. **Dollar Value of Business Done for Establishments With Payroll by Kind-of-Business Activity: 1997**

[Thousand dollars unless otherwise noted. Detail may not add to total because of rounding. Based on their primary business activity or combination of activities, establishments were classified into this specific industry. These establishments, however, may also be engaged in other kinds of business activities. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see Appendix A.]

| Primary and other kinds of business activities  | Dollar value of business done | Relative standard error of estimate (percent) |
|---|-------------------------------|---|
| <b>235310, ELECTRICAL CONTRACTORS</b>   |                               |   |
| <b>Total</b> .....  | <b>64 915 068</b>             | <b>1</b>                                      |
| <b>Special trade contractors, total</b> .....   | <b>62 746 291</b>             | <b>1</b>                                      |
| Cable television contractor .....   | 596 118                       | 15  |
| Electric power installation and service contractor, including lighting .....            | 43 307 099                    | 1   |
| Electronic control systems installation and service, except environmental control ..... | 3 000 723                     | 3   |
| Fire and security systems installation and service .....                                | 4 028 726                     | 3   |
| Highway lighting and signal installation and service .....                              | 2 143 771                     | 6   |
| Telecommunications installation and service .....                                       | 9 669 855                     | 2   |
| Other construction activities, nec .....  | 1 085 913                     | 4   |
| <b>Other business activities secondary to construction activities, total</b> .....      | <b>647 481</b>                | <b>7</b>                                      |
| Engineering services, secondary to construction activities .....                        | 125 573                       | 13  |
| Other business activities, secondary to construction activities, nec .....              | 181 345                       | 7   |
| Retail trade, secondary to construction activities .....                                | 229 657                       | 13  |
| Wholesale trade, secondary to construction activities .....                             | 110 906                       | 17  |
| Kind of business activity, nsk .....  | 435 384                       | 2   |

**Table 10. Selected Statistics for Establishments With Payroll by Specialization in Kind-of-Business Activity: 1997**

[Thousand dollars unless otherwise noted. Detail may not add to total because of rounding. This table presents selected statistics for establishments according to degree of specialization by major activity of construction work. If number of establishments or dollar value of business done for a given type of specialization are relatively insignificant, data may not be shown. In addition, data are not shown in this table where distribution of the dollar value of business done by kind of business activity was not provided in Table 9. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see Appendix A]

| Item   | Number of establishments | Total number of employees | Payroll, all employees | Value of construction work |                                   | Net value of construction work | Value added       | Cost of construction work subcontracted out to others | Relative standard error of estimate (percent) for column— |           |           |
|--|--------------------------|---------------------------|------------------------|----------------------------|-----------------------------------|--------------------------------|-------------------|---|---|-----------|-----------|
|  |                          |                           |                        | For all kinds of business  | For specialized kinds of business |                                |                   |   | B   | D         | H         |
|  | A                        | B                         | C                      | D                          | E                                 | F                              | G                 | H   | B   | D         | H         |
| <b>235310, ELECTRICAL CONTRACTORS</b>  |                          |                           |                        |                            |                                   |                                |                   |   |   |           |           |
| <b>Total</b> .....   | <b>61 414</b>            | <b>641 985</b>            | <b>21 680 036</b>      | <b>64 260 292</b>          | <b>X</b>                          | <b>61 121 104</b>              | <b>38 580 524</b> | <b>3 139 188</b>                                      | <b>1</b>  | <b>1</b>  | <b>1</b>  |
| Establishments not specializing .....  | 1 799                    | 32 368                    | 1 158 183              | 3 370 224                  | X                                 | 3 151 724                      | 2 134 543         | 218 500   | 5   | 4         | 8         |
| Establishments specializing 51 percent or more .....                                     | 59 616                   | 609 617                   | 20 521 855             | 60 890 072                 | 54 064 745                        | 57 969 384                     | 36 445 983        | 2 920 688   | 1   | 1         | 1         |
| <b>Cable television contractor</b>   |                          |                           |                        |                            |                                   |                                |                   |   |   |           |           |
| <b>All establishments specializing</b> .....   | <b>585</b>               | <b>7 597</b>              | <b>219 199</b>         | <b>591 708</b>             | <b>566 364</b>                    | <b>563 534</b>                 | <b>400 504</b>    | <b>28 174</b>   | <b>16</b>   | <b>15</b> | <b>20</b> |
| Specialization 100 percent .....   | 463                      | 5 592                     | 152 600                | 417 431                    | 417 431                           | 398 026                        | 273 702           | 19 405  | 20  | 19        | 27        |
| Specialization 90 to 99 percent .....  | *30                      | *665                      | *21 012                | *53 482                    | *50 263                           | *50 547                        | *39 505           | S   | 48  | 53        | S         |
| Specialization 80 to 89 percent .....  | 82                       | 892                       | 30 580                 | 80 446                     | 68 349                            | 76 875                         | 52 264            | *3 571  | 35  | 35        | 65        |
| Specialization 70 to 79 percent .....  | 2                        | D                         | D                      | D                          | D                                 | D                              | D                 | D   | D   | D         | D         |
| Specialization 60 to 69 percent .....  | *8                       | D                         | D                      | D                          | D                                 | D                              | D                 | D   | D   | D         | D         |
| Specialization 51 to 59 percent .....  | 1                        | D                         | D                      | D                          | D                                 | D                              | D                 | D   | D   | D         | D         |
| <b>Electric power installation and service contractor, including lighting</b>            |                          |                           |                        |                            |                                   |                                |                   |   |   |           |           |
| <b>All establishments specializing</b> .....   | <b>47 348</b>            | <b>475 041</b>            | <b>16 017 262</b>      | <b>47 076 286</b>          | <b>41 268 512</b>                 | <b>45 051 533</b>              | <b>28 080 372</b> | <b>2 024 752</b>                                      | <b>1</b>  | <b>1</b>  | <b>2</b>  |
| Specialization 100 percent .....   | 29 320                   | 179 125                   | 5 243 366              | 15 839 116                 | 15 839 116                        | 15 305 322                     | 9 538 581         | 533 794   | 2   | 2         | 4         |
| Specialization 90 to 99 percent .....  | 9 356                    | 114 777                   | 3 820 090              | 11 082 432                 | 10 371 863                        | 10 645 629                     | 6 617 675         | 436 803   | 3   | 3         | 4         |
| Specialization 80 to 89 percent .....  | 3 832                    | 85 953                    | 3 280 137              | 9 460 527                  | 7 878 722                         | 8 986 856                      | 5 567 564         | 473 671   | 3   | 2         | 3         |
| Specialization 70 to 79 percent .....  | 2 445                    | 47 664                    | 1 808 960              | 5 297 571                  | 3 898 899                         | 5 002 789                      | 3 132 176         | 294 782   | 4   | 3         | 3         |
| Specialization 60 to 69 percent .....  | 1 625                    | 33 953                    | 1 363 150              | 3 983 250                  | 2 507 135                         | 3 772 822                      | 2 347 925         | 210 429   | 4   | 4         | 6         |
| Specialization 51 to 59 percent .....  | 770                      | 13 569                    | 501 559                | 1 413 389                  | 772 778                           | 1 338 116                      | 876 451           | 75 273  | 7   | 6         | 5         |
| <b>Electronic control systems installation and service, except environmental control</b> |                          |                           |                        |                            |                                   |                                |                   |   |   |           |           |
| <b>All establishments specializing</b> .....   | <b>1 392</b>             | <b>12 433</b>             | <b>404 781</b>         | <b>1 206 365</b>           | <b>982 765</b>                    | <b>1 146 432</b>               | <b>752 738</b>    | <b>59 932</b>   | <b>11</b>   | <b>9</b>  | <b>19</b> |
| Specialization 100 percent .....   | 544                      | 4 793                     | 143 240                | 405 173                    | 405 173                           | 391 690                        | 251 907           | 13 483  | 18  | 13        | 19        |
| Specialization 90 to 99 percent .....  | 138                      | 1 521                     | 52 259                 | 160 761                    | 153 432                           | 149 749                        | 98 928            | S   | 31  | 32        | S         |
| Specialization 80 to 89 percent .....  | 114                      | *1 541                    | 49 927                 | 138 772                    | 111 897                           | 127 769                        | 88 140            | *11 003   | 47  | 33        | 64        |
| Specialization 70 to 79 percent .....  | 178                      | 1 809                     | 67 973                 | 195 435                    | 141 497                           | 186 009                        | 118 448           | 9 425   | 21  | 22        | 30        |
| Specialization 60 to 69 percent .....  | 215                      | 1 023                     | 27 564                 | 102 559                    | 64 360                            | 99 198                         | 70 012            | 3 361   | 21  | 19        | 21        |
| Specialization 51 to 59 percent .....  | 203                      | 1 746                     | 63 817                 | 203 664                    | 106 405                           | 192 017                        | 125 303           | 11 647  | 19  | 16        | 27        |
| <b>Fire and security systems installation and service</b>                                |                          |                           |                        |                            |                                   |                                |                   |   |   |           |           |
| <b>All establishments specializing</b> .....   | <b>3 023</b>             | <b>23 087</b>             | <b>712 745</b>         | <b>2 060 585</b>           | <b>1 889 228</b>                  | <b>1 982 157</b>               | <b>1 313 058</b>  | <b>78 427</b>   | <b>7</b>  | <b>7</b>  | <b>10</b> |
| Specialization 100 percent .....   | 1 963                    | 14 021                    | 437 088                | 1 270 720                  | 1 270 720                         | 1 225 888                      | 804 428           | 44 831  | 9   | 9         | 14        |
| Specialization 90 to 99 percent .....  | 417                      | 3 627                     | 111 399                | 317 015                    | 297 528                           | 304 331                        | 199 048           | 12 685  | 21  | 20        | 20        |
| Specialization 80 to 89 percent .....  | 290                      | 1 791                     | 52 243                 | 157 357                    | 129 287                           | 150 788                        | 93 782            | 6 569   | 21  | 17        | 29        |
| Specialization 70 to 79 percent .....  | 156                      | 989                       | 29 305                 | 78 186                     | 56 563                            | 74 071                         | 38 676            | 4 116   | 36  | 33        | 34        |
| Specialization 60 to 69 percent .....  | 71                       | 1 245                     | 41 202                 | 114 239                    | 70 546                            | 108 886                        | 90 794            | 5 352   | 24  | 23        | 33        |
| Specialization 51 to 59 percent .....  | 126                      | 1 415                     | 41 509                 | 123 068                    | 64 584                            | 118 193                        | 86 331            | *4 875  | 33  | 34        | 45        |
| <b>Highway lighting and signal installation and service</b>                              |                          |                           |                        |                            |                                   |                                |                   |   |   |           |           |
| <b>All establishments specializing</b> .....   | <b>670</b>               | <b>12 087</b>             | <b>457 264</b>         | <b>1 556 787</b>           | <b>1 334 318</b>                  | <b>1 444 343</b>               | <b>832 264</b>    | <b>112 444</b>  | <b>10</b>   | <b>10</b> | <b>13</b> |
| Specialization 100 percent .....   | 384                      | 5 345                     | 192 556                | 666 918                    | 666 918                           | 628 603                        | 348 995           | 38 315  | 14  | 14        | 12        |
| Specialization 90 to 99 percent .....  | *59                      | 1 632                     | 70 425                 | 257 098                    | 240 010                           | 231 376                        | 128 210           | *25 722   | 37  | 35        | 47        |
| Specialization 80 to 89 percent .....  | *69                      | 1 405                     | 53 053                 | 164 077                    | 134 507                           | 149 753                        | 86 110            | 14 324  | 32  | 29        | 26        |
| Specialization 70 to 79 percent .....  | *43                      | 1 372                     | 54 053                 | 178 651                    | 130 515                           | 165 562                        | 111 485           | 13 089  | 25  | 14        | Z         |
| Specialization 60 to 69 percent .....  | *44                      | *899                      | *26 879                | *106 988                   | *64 557                           | *100 042                       | *61 918           | *6 946  | 47  | 47        | 44        |
| Specialization 51 to 59 percent .....  | *71                      | 1 434                     | 60 296                 | 183 056                    | 97 811                            | 169 007                        | 95 545            | 14 049  | 27  | 23        | 30        |
| <b>Telecommunications installation and service</b>                                       |                          |                           |                        |                            |                                   |                                |                   |   |   |           |           |
| <b>All establishments specializing</b> .....   | <b>5 250</b>             | <b>74 617</b>             | <b>2 573 757</b>       | <b>7 963 771</b>           | <b>7 588 988</b>                  | <b>7 364 477</b>               | <b>4 809 350</b>  | <b>599 294</b>  | <b>3</b>  | <b>3</b>  | <b>4</b>  |
| Specialization 100 percent .....   | 4 308                    | 57 902                    | 1 984 418              | 6 211 289                  | 6 211 289                         | 5 772 521                      | 3 724 273         | 438 768   | 3   | 3         | 3         |
| Specialization 90 to 99 percent .....  | 294                      | 6 312                     | 225 071                | 660 625                    | 629 437                           | 602 775                        | 414 816           | 57 850  | 13  | 15        | 30        |
| Specialization 80 to 89 percent .....  | 190                      | 2 910                     | 81 094                 | 271 799                    | 231 155                           | 260 645                        | 179 994           | 11 154  | 22  | 20        | 17        |
| Specialization 70 to 79 percent .....  | 122                      | 1 862                     | 64 497                 | 195 908                    | 143 432                           | 187 517                        | 130 870           | 8 391   | 21  | 22        | 38        |
| Specialization 60 to 69 percent .....  | 256                      | 3 559                     | 140 134                | 412 333                    | 258 709                           | 349 307                        | 244 048           | 63 026  | 19  | 17        | 12        |
| Specialization 51 to 59 percent .....  | 79                       | 2 071                     | 78 543                 | 211 817                    | 114 966                           | 191 713                        | 115 350           | 20 103  | 22  | 22        | 28        |

**Table 11. Value of Construction Work for Establishments With Payroll by Location of Construction Work: 1997**

[Thousand dollars unless otherwise noted. Detail may not add to total because of rounding. \* Indicates geographic change, but not applicable to this sector. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see Appendix A]

| Location of construction work         | Construction work done by establishments located in this state |                 | Construction work done by establishments not located in this state |                 | Construction work done by establishments not reporting |                 | Relative standard error of estimate (percent) for column— |          |          |          |
|---------------------------------------|--|-----------------|--|-----------------|--|-----------------|---|----------|----------|----------|
|                                       | Value of construction work done in this state                  | Number          | Value of construction work   | Number          | Value of construction work                             | Number          | Value of construction work                                | A        | C        | E        |
|                                       | A  | B               | C  | D               | E  | F               | G   |          |          |          |
| <b>235310, ELECTRICAL CONTRACTORS</b> |  |                 |  |                 |  |                 |   |          |          |          |
| <b>United States .....</b>            | <b>64 260 292</b>  | <b>37 130</b>   | <b>45 208 916</b>  | <b>11 206</b>   | <b>5 427 879</b>                                       | <b>23 864</b>   | <b>13 623 500</b>   | <b>1</b> | <b>1</b> | <b>3</b> |
| Alabama .....                         | 671 183  | 389             | 360 270  | 222             | 113 214  | 491             | 197 699   | 4        | 7        | 4        |
| Alaska .....                          | 282 414  | 146             | 194 198  | 91              | <sup>3</sup> 37 875                                    | 74              | 50 342  | 10       | 11       | 50       |
| Arizona .....                         | 1 062 645  | 657             | 769 055  | 83              | 104 097  | 372             | 189 493   | 5        | 8        | Z        |
| Arkansas .....                        | 340 366  | 309             | 198 035  | 84              | 50 623   | 141             | 91 708  | 7        | 14       | 29       |
| California .....                      | 7 126 678  | 3 343           | 5 314 624  | 320             | 231 444  | 2 646           | 1 580 610   | 2        | 2        | 5        |
| Colorado .....                        | 1 514 686  | 855             | 1 087 997  | 115             | 54 659   | 478             | 372 030   | 4        | 5        | 2        |
| Connecticut .....                     | 879 835  | 760             | 649 944  | 173             | 65 419   | 322             | 164 472   | 4        | 7        | 5        |
| Delaware .....                        | 279 624  | 88              | 133 529  | 161             | 56 368   | 147             | 89 728  | 7        | 14       | 10       |
| District of Columbia .....            | 237 300  | <sup>3</sup> 31 | 6 508  | 359             | 210 758  | 9               | 20 033  | 4        | 22       | 4        |
| Florida .....                         | 3 367 789  | 2 186           | 2 338 557  | 266             | 176 816  | 1 584           | 852 416   | 2        | 4        | 11       |
| Georgia .....                         | 1 913 674  | 917             | 1 292 769  | 345             | 135 911  | 939             | 484 994   | 4        | 5        | 11       |
| Hawaii * .....                        | 297 240  | 181             | 219 510  | <sup>3</sup> 36 | 26 608   | 75              | 51 122  | 5        | 13       | Z        |
| Idaho .....                           | 267 405  | 226             | 200 982  | 105             | 27 574   | 158             | <sup>3</sup> 38 848                                       | 8        | 10       | 2        |
| Illinois .....                        | 3 276 519  | 1 701           | 2 486 045  | 235             | 151 217  | 835             | 639 258   | 2        | 3        | 13       |
| Indiana .....                         | 1 380 977  | 871             | 1 082 262  | 330             | 121 903  | 307             | 176 812   | 4        | 6        | 8        |
| Iowa .....                            | 608 630  | 464             | 444 658  | 210             | 92 442   | 187             | 71 530  | 4        | 7        | 10       |
| Kansas .....                          | 558 598  | 313             | 330 120  | 179             | 86 953   | 230             | 141 525   | 6        | 13       | 16       |
| Kentucky .....                        | 833 535  | 424             | 404 016  | 400             | 164 166  | 353             | 265 354   | 5        | 7        | 22       |
| Louisiana .....                       | 1 121 745  | 633             | 835 963  | 178             | 73 927   | 316             | 211 855   | 7        | 10       | 12       |
| Maine .....                           | 227 161  | 230             | 131 882  | 88              | 18 528   | 161             | <sup>7</sup> 76 751                                       | 11       | 23       | 12       |
| Maryland .....                        | 1 250 278  | 874             | 882 428  | 242             | 167 817  | 458             | 200 032   | 3        | 5        | 5        |
| Massachusetts .....                   | 1 545 460  | 1 054           | 1 101 779  | 319             | 82 383   | 724             | 361 298   | 4        | 4        | 18       |
| Michigan .....                        | 2 703 326  | 1 360           | 2 218 020  | 181             | 72 727   | 797             | 412 579   | 7        | 9        | 18       |
| Minnesota .....                       | 1 230 862  | 949             | 991 966  | 218             | 66 665   | 350             | 172 231   | 3        | 3        | 14       |
| Mississippi .....                     | 372 427  | 285             | 236 666  | 164             | 90 792   | 168             | 44 970  | 9        | 13       | 24       |
| Missouri .....                        | 1 277 285  | 648             | 864 876  | 209             | 80 421   | 342             | 331 988   | 3        | 6        | 9        |
| Montana .....                         | 156 732  | 129             | 87 033   | <sup>5</sup> 2  | 12 884   | 121             | 56 815  | 17       | 26       | 6        |
| Nebraska .....                        | 405 634  | 344             | 241 941  | 127             | 51 502   | 145             | 112 191   | 4        | 7        | 14       |
| Nevada .....                          | 844 794  | 218             | 548 293  | 191             | 191 257  | 181             | 105 244   | 4        | 7        | 3        |
| New Hampshire .....                   | 226 832  | 242             | 151 510  | 329             | 46 135   | 162             | 29 188  | 13       | 19       | 14       |
| New Jersey .....                      | 2 066 894  | 1 526           | 1 333 497  | 412             | 149 339  | 1 067           | 584 059   | 3        | 5        | 7        |
| New Mexico .....                      | 399 517  | 259             | 230 657  | 188             | 63 662   | 242             | 105 198   | 5        | 17       | 12       |
| New York .....                        | 4 867 752  | 2 027           | 3 232 787  | 361             | 184 532  | 1 821           | 1 450 433   | 2        | 3        | 10       |
| North Carolina .....                  | 1 949 679  | 1 377           | 1 330 623  | 401             | 196 777  | 890             | 422 279   | 4        | 5        | 20       |
| North Dakota .....                    | 145 940  | 174             | 104 951  | 96              | 28 459   | <sup>4</sup> 48 | S   | 11       | 18       | 7        |
| Ohio .....                            | 2 449 332  | 1 314           | 1 783 857  | 387             | 196 905  | 809             | 468 570   | 3        | 4        | 5        |
| Oklahoma .....                        | 527 141  | 476             | 446 760  | 127             | 30 543   | 357             | 49 839  | 6        | 8        | 15       |
| Oregon .....                          | 1 025 737  | 561             | 789 474  | 106             | 159 914  | 211             | 76 349  | 3        | 5        | 1        |
| Pennsylvania .....                    | 2 552 851  | 1 512           | 1 893 144  | 530             | 161 340  | 991             | 498 367   | 4        | 5        | 20       |
| Rhode Island .....                    | 206 037  | 244             | 132 480  | 97              | 32 794   | <sup>6</sup> 61 | 40 764  | 7        | 9        | 3        |
| South Carolina .....                  | 732 101  | 504             | 497 603  | 334             | 115 260  | 403             | 119 238   | 4        | 6        | 3        |
| South Dakota .....                    | 154 558  | 148             | 117 116  | 94              | <sup>3</sup> 32 279                                    | 76              | <sup>5</sup> 164  | 11       | 8        | 42       |
| Tennessee .....                       | 1 168 923  | 602             | 814 032  | 246             | 188 189  | 282             | 166 702   | 7        | 7        | 33       |
| Texas .....                           | 4 288 779  | 2 108           | 2 877 060  | 423             | 381 454  | 1 438           | 1 030 265   | 2        | 3        | 7        |
| Utah .....                            | 520 627  | 292             | 386 822  | 53              | 20 208   | 251             | 113 597   | 6        | 8        | 1        |
| Vermont .....                         | 99 283   | 96              | 57 160   | 98              | 15 664   | 114             | 26 459  | 12       | 33       | 10       |
| Virginia .....                        | 1 692 373  | 1 006           | 1 065 819  | 619             | 301 590  | 571             | 324 964   | 3        | 5        | 9        |
| Washington .....                      | 1 627 828  | 873             | 1 196 258  | 218             | 175 387  | 444             | 256 184   | 3        | 5        | 4        |
| West Virginia .....                   | 225 282  | 190             | 102 007  | 177             | 77 480   | 102             | <sup>4</sup> 45 795                                       | 10       | 12       | 16       |
| Wisconsin .....                       | 1 181 315  | 887             | 915 090  | 170             | 40 674   | 347             | 225 552   | 4        | 5        | 9        |
| Wyoming .....                         | 116 715  | 129             | 96 287   | <sup>6</sup> 1  | 12 347   | 66              | 8 081   | 10       | 13       | 17       |

# Appendix A.

## Explanation of Terms

---

### **ALL EMPLOYEES**

Comprise all full-time and part-time employees on the payroll of construction establishments, who worked or received pay for any part of the pay period including the 12th of March, May, August, and November. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included, but proprietors and partners of unincorporated firms are not. Number of employees is the sum of all employees during the pay periods including the 12th of March, May, August, and November, divided by 4.

### **BEGINNING-OF-YEAR GROSS BOOK VALUE OF DEPRECIABLE ASSETS (\$1,000)**

Gross value of depreciable assets, usually original costs of the assets, at the beginning of the year. Depreciable assets are the fixed tangible property of the establishment for which depreciation accounts are ordinarily maintained.

### **BEGINNING-OF-YEAR INVENTORIES OF MATERIALS AND SUPPLIES (\$1,000)**

The inventories of materials and supplies owned at the beginning of the reporting year by establishments with payroll. Includes all of the materials and supplies that are owned regardless of where they are held. Excludes materials that are owned by others but held by the reporting establishment. Builders who built on their own account for sale were requested to exclude work in progress and finished units not sold from inventories. Inventories of multi-establishment companies were instructed to be reported by the establishment that is responsible for the inventories, even if these inventories were held at a separate location.

### **CAPITAL EXPENDITURES, OTHER THAN LAND (\$1,000)**

Capital expenditures are those that were or will be charged to the fixed assets accounts and for which depreciation accounts are ordinarily maintained. Includes the cost of capital improvements that were made during the year that increased the value of property or adapted it for another use. Capital expenditures for leasehold improvements made to property leased from others are also included. Land expenditures are not included as capital expenditures. If any building or equipment had been acquired under a capital leasing arrangement that meet

the criteria set down by the Financial Accounting Standards Board (FASB), respondents were instructed to report the original cost or market value as a fixed asset and as a capital expenditure, if acquired in the reporting year. If the lease qualified as an operating lease, respondents were instructed not to include the value of the building and equipment as a fixed asset or capital expenditure. If capital expenditures were not recorded directly at the establishment level but handled centrally at a company or division level, respondents were requested to report appropriate estimates for the individual establishments.

### **CONSTRUCTION WORK DONE BY ESTABLISHMENTS LOCATED IN THIS STATE: NUMBER**

Includes the number of establishments physically located and doing construction work in the same state.

### **CONSTRUCTION WORK DONE BY ESTABLISHMENTS LOCATED IN THIS STATE: VALUE OF CONSTRUCTION WORK (\$1,000)**

Includes the value of construction work done by establishments physically located and doing construction work in the same state.

### **CONSTRUCTION WORK DONE BY ESTABLISHMENTS NOT LOCATED IN THIS STATE: NUMBER**

Includes the number of establishments not located in the state where the construction work is done. Establishment location is defined as a relatively permanent office or other place of business where the usual business activities related to construction are conducted with some exceptions. A relatively permanent office is one that has been established for the management of more than one project or job and is expected to be maintained on a continuing basis.

### **CONSTRUCTION WORK DONE BY ESTABLISHMENT NOT LOCATED IN THIS STATE: VALUE OF CONSTRUCTION WORK (\$1,000)**

Includes the value of construction work done by establishments not located in the state where the construction work is done. Establishment location is defined as a relatively permanent office or other place of business where the usual business activities related to construction are conducted with some exceptions. A relatively permanent

---

office is one that has been established for the management of more than one project or job and is expected to be maintained on a continuing basis.

**CONSTRUCTION WORK DONE BY ESTABLISHMENTS NOT REPORTING: NUMBER (\$1,000)**

Includes the number of establishments that did not report the state location of construction work on their census forms and establishments that did not complete a construction census form. Data were estimated for establishments that did not complete a census form.

**CONSTRUCTION WORK DONE BY ESTABLISHMENTS NOT REPORTING: VALUE OF CONSTRUCTION WORK (\$1,000)**

Includes the value of construction work done by establishments that did not report the state location of construction work on their census forms and establishments that did not complete a construction census form. Data were estimated for establishments that did not complete a census form.

**CONSTRUCTION WORKERS**

Includes all payroll workers up through the working supervisor level directly engaged in construction operations, such as painters, carpenters, plumbers, and electricians. Included are journeymen, mechanics, apprentices, laborers, truck drivers and helpers, equipment operators, and on-site record keepers and security guards. Supervisory employees above the working foreman level are excluded from this category and are included in the other employees category.

**COST OF ALL OTHER FUELS AND LUBRICANTS (\$1,000)**

Costs for fuels and lubricants purchased during the year from other companies or received from other establishments of the company and not included as costs in any of these categories: natural gas; manufactured gas; gasoline; and diesel fuel.

**COST OF CONSTRUCTION WORK SUBCONTRACTED OUT TO OTHERS (\$1,000)**

All costs for construction work subcontracted out to other construction contractors during the reporting year. Excluded from this item are costs to the reporting establishment for its purchases of materials, components, and supplies provided to a subcontractor for use, such costs are reported under costs for materials, components, and supplies. Also excluded are costs for the rental of machinery or equipment.

**COST OF ELECTRICITY (\$1,000)**

Costs for electric energy purchased during the year from other companies or received from other establishments of the company.

**COST OF GASOLINE AND DIESEL FUEL (\$1,000)**

Costs for gasoline and diesel fuel purchased during the year from other companies or received from other establishments of the company.

**COST OF OFF-HIGHWAY USE OF GASOLINE AND DIESEL FUEL (\$1,000)**

Includes the costs for gasoline and diesel fuel purchased during the reporting year for off-highway use. Off-highway fuel use is the use of fuel for trade, business, or income producing activity. In most cases, off-highway fuel use does not include use in a highway vehicle registered or required to be registered for use on public highways.

**COST OF ON-HIGHWAY USE OF GASOLINE AND DIESEL FUEL (\$1,000)**

Costs for gasoline and diesel fuel purchased during the year to fuel highway vehicles. A highway vehicle is any self-propelled vehicle designed to carry a load over public highways, whether or not also designed to perform other functions. Examples of vehicles designed to carry a load over public highways are passenger automobiles, trucks, and truck tractors. If a vehicle can be used for a combination of on-highway and off-highway uses and has one fuel tank, the fuel use is not considered off-highway. An example of this is a concrete-mixer truck where the truck engine operates both the engine and the mixing unit by a power take-off and is fueled by a single tank. None of the fuel used in this vehicle is off-highway because of the on-highway use. If the vehicle has separate fuel tanks and engines, the fuel in a tank used for non-highway use may be considered off-highway use.

**COSTS OF MATERIALS, COMPONENTS, AND SUPPLIES (\$1,000)**

Includes the costs for materials, components, and supplies used by establishments in the construction or reconstruction of buildings, structures, or other facilities and costs for materials bought and resold to others. Also includes costs made for direct purchases of materials, components, and supplies even though the purchases were subsequently provided to subcontractors for their use. Supplies include expendable tools which are charged to current accounts. Freight and other direct charges representing only that amount paid after discounts, and the value of materials, components, and supplies obtained from other establishments of the respondent's company. Excluded from this item are the cost of fuels, lubricants, electric energy, industrial and other specialized machinery

---

and equipment such as printing presses; computer systems, that are not an integral part of a structure; and materials furnished to contractors by the owners of projects.

**COST OF MATERIALS, COMPONENTS, SUPPLIES, AND FUELS (\$1,000)**

Includes the costs for materials, components, supplies used by establishments in the construction or reconstruction of buildings, structures, or other facilities and costs for materials bought and resold to others. Also includes the costs for fuels that include gasoline, diesel fuel, and lubricants, and electric energy purchased during the year from other companies or received from other establishments of the company and costs for natural and manufactured gas, fuel oil, coal and coke products. Excluded from this item are industrial and other specialized machinery and equipment, such as printing presses; computer systems, that are not an integral part of a structure; materials furnished to contractors by the owners of projects.

**COST OF NATURAL GAS AND MANUFACTURED GAS (\$1,000)**

Costs for natural gas and manufactured gas purchased during the year from other companies or received from other establishments of the company.

**COST OF REPAIRS TO BUILDING AND OTHER STRUCTURES (\$1,000)**

Includes the cost of all repairs made to structures by outside companies or from other establishments of the same company. It includes only the cost of repairs necessary to maintain property. It excludes the cost of improvements that increase the value of property or the cost of adapting it for another use. Such costs are included in capital expenditures.

**COST OF REPAIRS TO MACHINERY AND EQUIPMENT (\$1,000)**

Includes the cost of all repairs made to machinery and equipment by outside companies or from other establishments of the same company. It includes only the cost of repairs necessary to maintain the machinery.

**COST OF SELECTED POWER, FUELS, AND LUBRICANTS (\$1,000)**

Included are costs for fuels including gasoline, diesel fuel, and lubricants, and electric energy purchased during the year from other companies or received from other establishments of the company. Also included are costs for natural gas, manufactured gas, fuel oil, coal and coke products.

**DEPRECIATION CHARGES DURING YEAR (\$1,000)**

The depreciation expenses of the establishment in the reporting year. These expenses are charged against depreciable assets which are the fixed tangible property of the establishment for which depreciation accounts are ordinarily maintained.

**DOLLAR VALUE SIZE CLASS**

Displays data for establishments with payroll that fall within each range of value of business done.

**END-OF-YEAR GROSS BOOK VALUE OF DEPRECIABLE ASSETS (\$1,000)**

The gross value of depreciable assets, plus any capital expenditures for new and use depreciable assets in the reporting year, minus the gross value of depreciable assets sold, retired, scrapped, destroyed, etc. in the reporting year.

**END-OF-YEAR INVENTORIES OF MATERIALS AND SUPPLIES (\$1,000)**

The inventories of materials and supplies owned at the end of the reporting year by establishments with payroll. Includes all of the materials and supplies that are owned regardless of where they are held. Excludes materials which are owned by others but held by the reporting establishment. Builders who build on their own account for sale were requested to exclude work in progress and finished units not sold from inventories. Inventories of multiestablishment companies were instructed to be reported by the establishment that is responsible for the inventories even if these inventories were held at a separate location.

**FIRST-QUARTER PAYROLL (\$1,000)**

Includes the gross earnings paid in the first quarter of the reporting year to all employees on the payroll of construction establishments. The first-quarter payroll period is January through March. Includes all forms of compensation such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. Includes salaries of officers of these establishments, if a corporation, but excludes payments to the proprietor or partners, if unincorporated.

**FRINGE BENEFITS (\$1,000)**

Includes expenditures made by the employer for legally required and voluntary fringe benefit programs for employees.

---

**LEGALLY REQUIRED EXPENDITURES (\$1,000)**

Includes expenditures made by the employer for Social Security contributions, unemployment compensation, workman's compensation, and state temporary disability payments.

**NET VALUE OF CONSTRUCTION WORK (\$1,000)**

The value of construction work less the cost of construction work subcontracted out to others.

**NUMBER OF CONSTRUCTION WORKERS:  
QUARTERLY PAY PERIOD**

Refers to the number of construction workers employed during a quarterly pay period. January to March includes the reported number of construction workers employed during the pay period including March 12. April to June includes the reported number of construction workers employed during the pay period including May 12. July to September includes the reported number of construction workers employed during the pay period including August 12. October to December includes the reported number of construction workers employed during the pay period including November 12.

**NUMBER OF ESTABLISHMENTS**

Includes all establishments that were in business at any time during the year. It covers all full-year and part-year operations. Construction establishments that were inactive or idle for the entire year were not included.

**NUMBER OF ESTABLISHMENTS NOT REPORTING  
INVENTORIES**

Includes all establishments with payroll that did not report a dollar amount for inventories of materials and supplies during the reporting year. It covers all full-year and part-year operations. Construction establishments that were inactive or idle for the entire year were not included.

**NUMBER OF ESTABLISHMENTS WITH INVENTORIES**

Includes all establishments with payroll that reported a dollar amount of inventory. Includes the number of establishments that were in business at any time during the year. It covers all full-year and part-year operations. Construction establishments that were inactive or idle for the entire year were not included.

**NUMBER OF ESTABLISHMENTS WITH NO  
INVENTORIES**

Includes all establishments with payroll that reported having no inventories of materials and supplies during the reporting year. Includes establishments that were in business at any time during the year. It covers all full-year and part-year operations. Construction establishments that were inactive or idle for the entire year were not included.

**NUMBER OF OTHER EMPLOYEES: QUARTERLY PAY  
PERIOD**

Refers to the number of other employees employed during a quarterly pay period. January to March includes the reported number of other workers employed during the pay period including March 12. April to June includes the reported number of other workers employed during the pay period including May 12. July to September includes the reported number of other workers employed during the pay period including August 12. October to December includes the reported number of other workers employed during the pay period including November 12.

**NUMBER OF PROPRIETORS AND WORKING  
PARTNERS**

These data were not collected on the census report forms. The data shown are based on crediting each sole proprietorship establishment with one active proprietor and each partnership establishment with two working partners.

**OTHER BUSINESS RECEIPTS (\$1,000)**

Includes business receipts not reported as value of construction work. This includes business receipts from retail and wholesale trade, rental of equipment without operator, manufacturing, transportation, legal services, insurance, finance, rental of property and other real estate operations, and other nonconstruction activities. Receipts for separately definable architectural and engineering work for others are also included here. Excluded are receipts from other business operations in foreign countries, and nonoperating income such as interest and dividends.

**OTHER EMPLOYEES**

Includes payroll employees in executive, purchasing, accounting, personnel, professional, technical activities, and routine office functions. Also included are supervisory employees above the working foreman level.

**PAYROLL (\$1,000)**

Includes the gross earnings paid in the reporting year to all employees on the payroll of construction establishments. It includes all forms of compensation such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, prior to deductions such as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation, but excludes payments to the proprietor or partners, if unincorporated.

---

**PAYROLL: CONSTRUCTION WORKERS (\$1,000)**

Includes the gross earnings paid in the reporting year to all construction workers on the payroll of construction establishments. It includes all forms of compensation such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, prior to deductions such as employees' Social security contributions, withholding taxes, group insurance, union dues, and savings bonds.

**PAYROLL: OTHER EMPLOYEES (\$1,000)**

Includes the gross earnings paid in the reporting year to all other employees on the payroll of construction establishments. It includes all forms of compensation such as salaries, wages, commissions, dismissal pay, bonuses, vacations and sick leave pay, prior to deductions such as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. Payroll of other employees excludes salaries of the proprietor or partners, if unincorporated.

**PRIMARY AND OTHER KINDS OF BUSINESS ACTIVITIES**

Displays dollar value of business done by primary construction business activity. Primary construction activity is construction activity that generates fifty-one percent or more of an establishment's dollar value of business done. Also displayed are other kinds of business activities. Other kinds of business activities include business receipts not reported as value of construction work. This item includes business receipts from retail and wholesale trade, rental of equipment without an operator, manufacturing, transportation, legal services, insurance, finance, rental of property and other real estate operations, and other nonconstruction activities. Receipts for separately definable architectural and engineering work for others are also included in other kinds of business activities.

**PURCHASED COMMUNICATION SERVICES (\$1,000)**

Includes all costs for communication services purchased from other companies or from other establishments of the company.

**RENTAL COSTS FOR BUILDINGS (\$1,000)**

Includes all costs for renting or leasing space and buildings. It excludes costs under agreements that are in effect conditional sales contracts such as capital leases. Such costs are included in capital expenditures.

**RENTAL COSTS FOR MACHINERY AND EQUIPMENT (\$1,000)**

Includes all costs for renting or leasing construction machinery and equipment, transportation equipment, production equipment, office equipment, furniture and fixtures, and scaffolding. It excludes costs for the rental of

land. It also excludes costs under agreements that in effect are conditional sales contracts such as capital leases. Such costs are included in capital expenditures.

**RENTAL COSTS FOR MACHINERY, EQUIPMENT, AND BUILDINGS (\$1,000)**

Includes all costs for renting or leasing construction machinery and equipment, transportation equipment, production equipment, office equipment, furniture and fixtures, scaffolding, office space, and buildings. It excludes costs for the rental of land. It also excludes costs under agreements that in effect are conditional sales contracts such as capital leases. Such costs are included in capital expenditures.

**RETIREMENTS AND DISPOSITION OF DEPRECIABLE ASSETS (\$1,000)**

Includes the gross value of depreciable assets sold, retired, scrapped, destroyed, abandoned, etc., during the year. The values shown are the acquisition costs of the retired assets. This item also includes the value of assets (at acquisition cost rather than current market value) transferred to other establishments of the same company.

**SELECTED COSTS (\$1,000)**

Includes the costs for materials, components, and supplies; costs for construction work subcontracted out to others; and costs for selected power, fuels, and lubricants. Capital expenditures and rental costs for machinery, equipment, and structures are shown elsewhere.

**SELECTED PURCHASED SERVICES (\$1,000)**

Includes all costs for communication and repair to buildings and other structure services purchased from other companies or from other establishments of the company. It also includes the cost of all repairs made to structures and equipment by outside companies or from other establishments of the same company. It includes only the cost of repairs necessary to maintain property and equipment. It excludes the cost of improvements that increase the value of property or the cost of adapting it for another use. Such costs are included in capital expenditures.

**SPECIALIZATION PERCENT**

Displays data for establishments with payroll that fall within each percent range of specialization.

**TYPE OF CONSTRUCTION**

Provides data by the types of buildings, structures, or other facilities being constructed or worked on by construction establishments in the reporting year. Respondents were instructed that each building, structure, or other facility should be classified in terms of its function.

---

For example, a restaurant building was to be classified in the restaurant category whether it was designed as a commercial restaurant building or an auxiliary unit of an educational institution. If respondents worked on more than one type of building or structure in a multibuilding complex, they were instructed to report separately for each building or type of structure. If they worked on a building that had more than one purpose; i.e., office and residential, or commercial, they were to classify the building by major purpose. In addition, all respondents were requested to report the percentage of the value of construction work done for new construction, additions, alterations, or reconstruction, and maintenance and repair work for each of these types.

### Building Construction

- **Single-family houses, detached.** Includes all fully detached residential buildings constructed for one family use.
- **Single-family houses, attached, including townhouses and townhouse-type condominiums.** Includes all residential buildings with two or more living quarters side by side, completely independent of one another, and separated by an unbroken party or lot line wall from ground to roof.
- **Apartment buildings, apartment type condominiums, and cooperatives.** Includes apartment rentals, high-rise, low-rise, or any structures containing two or more housing units other than attached single-family houses.
- **All other residential buildings.** Includes dormitories, fraternity and sorority houses, and other nonhousekeeping residential structures.
- **Manufacturing and light industrial buildings.** Includes all manufacturing and light industrial buildings and plants that are used to house production and assembly activities. Note that industrial parks should be classified under its primary usage such as warehouses, office space, commercial or industrial type buildings. Heavy industrial facilities such as blast furnaces, petroleum refineries, and chemical complexes are not included in this category but are reported under nonbuilding construction.
- **Manufacturing and light industrial warehouses.** Includes all warehouses which are intended for industrial activities.
- **Hotels and motels.** Includes hotels, motels, bed-and-breakfast inns, and tourist cabins intended for transient accommodations. Also included are hotel and motel conference centers.
- **Office buildings.** Includes all buildings that are used primarily for office space or for government administrative offices. Also included are banks or financial buildings that are three stories or more. Medical office buildings are reported under hospitals and institutional buildings.
- **All other commercial buildings, nec (not elsewhere classified) such as stores, restaurants, and automobile service stations.** Includes all buildings that are intended for use primarily in the retail and service trades. For example, shopping centers, department stores, drug stores, restaurants, public garages, auto service stations, and one or two story bank or financial institutions.
- **Commercial warehouses.** Includes distribution buildings and mini-storage units intended for commercial use. Also included are storage warehouses.
- **Religious buildings.** Includes all buildings that are intended for religious services or functions such as churches, synagogues, convents, monasteries, and seminaries.
- **Educational buildings.** Includes all buildings that are used directly in administrative and instructional activities such as colleges, universities, elementary and secondary schools, correspondence, commercial, and trade schools. Libraries, museums, and art galleries, as well as laboratories that are not a part of a manufacturing or commercial establishment, are also included.
- **Health care and institutional buildings.** Includes hospitals, medical office buildings and all other buildings that are intended to provide health and institutional care such as clinics, infirmaries, sanitariums, nursing homes, homes for the aged, and orphanages.
- **Public safety buildings.** Included detention centers, prisons, fire stations, and rescue squad buildings.
- **Farm buildings, nonresidential.** Includes nonresidential farm buildings such as barns, poultry houses, implement sheds, and farm silos.
- **Amusement, social, and recreational buildings.** Includes buildings that are used primarily for entertainment, social, and recreational activities such as sports arenas, convention centers, theaters, music halls, golf and country club buildings, skating rinks, fitness centers, bowling alleys, and indoor swimming pools.
- **All other nonresidential buildings.** Includes nonresidential buildings that are not classified elsewhere such as fire stations, post offices, bus and air passenger terminals and hangars, and prisons.

### Nonbuilding Construction

- **Highways, streets, and related work such as installation of guardrails, highway signs, and lighting.** Includes streets, roads, alleys, sidewalks,

---

curbs and gutters, culverts, right-of-way drainage, erosion control, and lighting. Also includes earthwork protective structures when used in connection with road improvements.

- **Airport runways and related work.** Includes runways, taxiways, aprons, and related work.
- **Private driveways and parking areas.** Includes all nonstructural parking areas and private driveways of all surface types.
- **Bridges and elevated highways.** Includes viaducts and overpasses, roads, highways, railroads, and causeways built on structural supports.
- **Tunnels.** Includes highway, pedestrian, railroad, and water distribution tunnels.
- **Sewers, sewer lines, septic tanks, and related facilities.** Includes sanitary and storm sewers, pumping stations, septic systems, and related facilities.
- **Water mains and related facilities.** Includes water supply systems, pumping stations, and related facilities.
- **Pipeline construction other than sewer or water-lines.** Includes pipelines for the transmission of gas, petroleum products, and liquefied gases.
- **Power and communication transmission lines, towers, and related facilities.** Includes electric power lines, telephone and telegraph lines, fiber optic cables, cable television lines, television and radio towers, and electric light and power facilities.
- **Power plants and cogeneration plants, except hydroelectric.** Includes electric and steam generating plants, cogenerating plants, and nuclear plants.
- **Power plant, hydroelectric.** Includes all types of hydroelectric power generating plants.
- **Blast furnaces, petroleum refineries, chemical complexes, etc.** Includes coke ovens and mining appurtenances such as tipples and washeries.
- **Sewage treatment plants.** Includes sewage treatment and waste disposal plants.
- **Water treatment plants.** Includes water filtration and water softening plants.
- **Urban mass transit.** Includes subways, street cars, and light rail systems.
- **Railroad construction.** Includes the construction of railroad beds, tracks, freight yards, and signal towers for systems other than urban mass transit.
- **Conservation and development construction.** Includes land reclamation, irrigation projects, drainage canals, levees, jetties, breakwaters, and flood control projects.
- **Dam and reservoir construction.** Includes hydroelectric, water supply, and flood control dams and reservoirs.
- **Dry/Solid waste disposal.** Includes all dry/solid waste disposal sites where non hazardous waste is buried.
- **Harbor and port facilities.** Includes docks, piers, and wharves.
- **Marine construction.** Includes dredging, underwater rock removal, breakwaters, navigational channels, and locks.
- **Outdoor swimming pools.** Includes wading pools and reflecting pools.
- **Water storage facilities.** Includes aqueducts, water towers, and water tanks.
- **Tank storage facilities other than water.** Includes gasoline and oil storage tanks.
- **Fencing.** Includes all types of fencing.
- **Recreational facilities.** Includes athletic fields, golf courses, outdoor tennis courts, trails, and camps.
- **Billboards.** Includes all type of billboards.
- **Heavy military construction.** Includes all military non-building such as missile sites and testing facilities, launch sites and underground command centers.
- **Ships.** Includes special trade contractors working on ships and boats such as painters, carpenters, joiners, electricians, etc.
- **Oilfields.** The majority of construction work occurring in oil fields is classified in Sector 21, Mining. For example, pipeline construction on oil and gas leases are classified in mining only up to the point where the distribution company takes over. At that point, pipeline construction activity is classified in Sector 23, Construction. Some secondary mining construction activities are classified in the construction sector. Examples of this include: road construction; land clearing contracting; land drainage contracting; and land leveling contracting.
- **Other nonbuilding construction, nec.** Includes all types of nonbuilding construction not elsewhere classified.

#### VALUE ADDED (\$1,000)

Value added is equal to value of business done, less costs for construction work subcontracted out to others and costs for materials, components, supplies, and fuels.

---

**VALUE OF BUSINESS DONE (\$1,000)**

Value of business done is the sum of value of construction work and other business receipts.

**VALUE OF CONSTRUCTION WORK (\$1,000)**

Includes the value of construction work done by general contractors, heavy construction contractors, and special trades contractors. Included are new construction, additions, alterations or reconstruction, and maintenance and repair construction work. Also includes the value of any construction work done by the reporting establishments for themselves. Speculative builders were instructed to include the value of buildings and other structures built or being built for sale in the reporting year, but not sold. They were to include the costs of such construction plus normal profit. Also included is the cost of construction work done on buildings for rent or lease. Establishments engaged in the sale and installation of construction components such as plumbing, heating, and central air-conditioning supplies and equipment; lumber and building materials; paint, glass, and wallpaper; and electrical and wiring supplies, elevators or escalators were instructed to include both the value for the installation and the receipts covering the price of the items installed. Excluded are the cost of industrial and other special machinery and equipment that are not an integral part of a structure, and value of work done from business operations in foreign countries.

**VALUE OF CONSTRUCTION WORK: ADDITIONS, ALTERATIONS, OR RECONSTRUCTION (\$1,000)**

Includes construction work which adds to the value or useful life of an existing building or structure or that adapts a building or structure to a new or different use. Included are major replacements of building systems, such as the installation of a new roof or heating system and the resurfacing of streets or highways. This contrasts to the repair of a hole in a roof or the routine patching of highways and streets that would be classified as maintenance and repair.

**VALUE OF CONSTRUCTION WORK DONE IN THIS STATE (\$1,000)**

Includes the value of construction work done in a state by general contractors, heavy construction contractors, and special trades contractors.

**VALUE OF CONSTRUCTION WORK FOR ESTABLISHMENTS WITH INVENTORIES (\$1,000)**

The value of construction work for establishments with payroll that reported a dollar amount of inventory in the reporting year.

**VALUE OF CONSTRUCTION WORK FOR ESTABLISHMENTS WITH NO INVENTORIES (\$1,000)**

The value of construction work for establishments with payroll that reported having no dollar amount of inventory in the reporting year.

**VALUE OF CONSTRUCTION WORK: FOR SPECIALIZED TYPE (\$1,000)**

Includes value of construction work for one of two specialized categories: types of construction; and kind-of-business activity. A construction establishment specializes in a type of construction when fifty-one percent or more of the construction work done is in one construction industry. The construction establishment reports each type of construction it performs as a percent of value of construction work. Types of construction refers to the types of buildings, structures, or facilities constructed or worked on by construction establishments in the reporting year. Specialization in types of construction displays data for establishments with payroll that falls within each percent range of specialization. A construction establishment specializes in a kind-of-business activity when fifty-one percent or more of the construction work done by the establishment is performed in one type of business activity. The construction establishment reports each kind-of-business activity engaged in as a percent of value of construction work. Kind-of-business activity refers to the kinds of business activities construction establishments perform throughout the reporting year. The following are examples of kind-of-business activity: highway and street construction; electrical contracting; carpentry contracting; and concrete contracting. Specialization in kind-of-business activity displays data for establishments with payroll that fall within each percent range of specialization.

**VALUE OF CONSTRUCTION WORK: MAINTENANCE AND REPAIR (\$1,000)**

Includes incidental construction work that keeps a property in ordinary working condition. Excluded are trash and snow removal, lawn maintenance and landscaping, cleaning and janitorial services.

**VALUE OF CONSTRUCTION WORK: NEW CONSTRUCTION (\$1,000)**

Includes the complete, original building of structures and essential service facilities and the initial installation of integral equipment such as elevators and plumbing, heating, and air-conditioning supplies and equipment.

**VALUE OF CONSTRUCTION WORK ON FEDERALLY OWNED PROJECTS (\$1,000)**

The value of construction work for projects owned by the Federal government.

---

**VALUE OF CONSTRUCTION WORK ON GOVERNMENT OWNED PROJECTS (\$1,000)**

The value of construction work for the sum total of all projects owned by Federal, state, and local governments.

**VALUE OF CONSTRUCTION WORK ON PRIVATELY OWNED PROJECTS (\$1,000)**

The value of construction work for construction projects other than government owned projects.

**VALUE OF CONSTRUCTION WORK ON STATE AND LOCALLY OWNED PROJECTS (\$1,000)**

The value of construction work for the sum total of all projects owned by state and local governments.

**VALUE OF CONSTRUCTION WORK SUBCONTRACTED IN FROM OTHERS (\$1,000)**

Includes the value of construction work done by reporting establishments as subcontractors to other contractors or builders. Establishments were asked to report the

approximate percent of total value of construction work accounted for by such work, and the percentages reported were applied to the reported value of construction work to develop a value for this item.

**VALUE OF CONSTRUCTION WORK FOR ESTABLISHMENTS NOT REPORTING INVENTORIES (\$1,000)**

The value of construction work for establishments that did not report a dollar amount for inventories of materials and supplies, and the value of construction work for establishments that did not complete a census form.

**VOLUNTARY EXPENDITURES (\$1,000)**

Includes expenditures made by the employer for life insurance premiums, pension plans, insurance premiums on hospital and medical plans, welfare plans, and union negotiated benefits.

# Appendix B.

## NAICS Codes, Titles, and Descriptions

---

### 23 CONSTRUCTION

The Construction sector comprises establishments primarily engaged in the construction of buildings and other structures, heavy construction (except buildings), additions, alterations, reconstruction, installation, and maintenance and repairs. Establishments engaged in demolition or wrecking of buildings and other structures, clearing of building sites, and sale of materials from demolished structures are also included. This sector also includes those establishments engaged in blasting, test drilling, landfill, leveling, earthmoving, excavating, land drainage, and other land preparation. The industries within this sector have been defined on the basis of their unique production processes. As with all industries, the production processes are distinguished by their use of specialized human resources and specialized physical capital. Construction activities are generally administered or managed at a relatively fixed place of business, but the actual construction work is performed at one or more different project sites.

This sector is divided into three subsectors of construction activities: (1) building construction and land subdivision and land development; (2) heavy construction (except buildings), such as highways, power plants, and pipelines; and (3) construction activity by special trade contractors.

Establishments classified in Subsector 233, Building, Developing, and General Contracting and Subsector 234, Heavy Construction, usually assume responsibility for an entire construction project, and may subcontract some or all of the actual construction work. Operative builders who build on their own account for sale, and land subdividers and land developers, who engage in subdividing real property into lots for sale, are included in Subsector 233, Building, Developing, and General Contracting. (Special trade contractors are included in Subsector 234, Heavy Construction, if they are engaged in activities primarily relating to heavy construction, such as grading for highways.) Establishments included in these subsectors operate as general contractors, design-builders, engineer-constructors, joint-venture contractors, and turnkey construction contractors. Establishments identified as construction management firms are also included.

Establishments classified in Subsector 235, Special Trade Contractors, are primarily engaged in specialized construction activities, such as plumbing, painting, and electrical work, and work for builders and general contractors under subcontract or directly for project owners. Establishments engaged in demolition or wrecking of

buildings and other structures, dismantling of machinery, excavating, shoring and underpinning, anchored earth retention activities, foundation drilling, and grading for buildings are also included in this subsector.

“Force account” construction is construction work performed by an establishment primarily engaged in some business other than construction, for its own account and use, and by employees of the establishment. This activity is not included in this industry sector unless the construction work performed is the primary activity of a separate establishment of the enterprise.

The installation of prefabricated building equipment and materials, such as elevators and revolving doors, is classified in the Construction sector. Installation work incidental to sales by employees of a manufacturing or retail establishment is classified as an activity of those establishments.

### 233 Building, Developing, and General Contracting

Industries in the Building, Developing, and General Contracting subsector comprises establishments primarily responsible for the entire construction (i.e., new work, additions, alterations, and repair) of building projects. Builders, developers, and general contractors, as well as land subdividers and land developers are included in this subsector. Establishments identified as construction management firms for building projects are also included. The construction work may be for others and performed by custom builders, general contractors, design builders, engineer-constructors, joint-venture contractors, and turnkey contractors, or may be on their own account for sale and performed by speculative or operative builders.

### 2331 Land Subdivision and Land Development

This NAICS Industry Group includes establishments classified in NAICS Industry 23311, Land Subdivision and Land Development.

### 23311 Land Subdivision and Land Development

This industry comprises establishments primarily engaged in subdividing real property into lots and/or developing building lots for sale.

### 233110 Land Subdivision and Land Development

This U.S. industry comprises establishments primarily engaged in subdividing real property into lots and/or developing building lots for sale.

---

The data published with NAICS code 233110 include the following SIC industries:

6552 Land subdividers and developers, except cemeteries

### **2332 Residential Building Construction**

This NAICS Industry Group includes establishments classified in the following NAICS Industries: 23321, Single-Family Housing Construction; and 23322, Multifamily Housing Construction.

#### **23321 Single-Family Housing Construction**

This industry comprises establishments primarily responsible for the entire construction (i.e., new work, additions, alterations, and repairs) of single family residential housing units (e.g., single family detached houses, town houses, or row houses where each housing unit is separated by a ground-to-roof wall and where no housing units are constructed above or below). This industry includes establishments responsible for additions and alterations to mobile homes and on-site assembly of modular and prefabricated houses. Establishments identified as single family construction management firms are also included in this industry. Establishments in this industry may perform work for others or on their own account for sale as speculative or operative builders. Kinds of establishments include single family housing custom builders, general contractors, design builders, engineer-constructors, joint-venture contractors, and turnkey contractors.

#### **233210 Single-Family Housing Construction**

This U.S. industry comprises establishments primarily responsible for the entire construction (i.e., new work, additions, alterations, and repairs) of single family residential housing units (e.g., single family detached houses, town houses, or row houses where each housing unit is separated by a ground-to-roof wall and where no housing units are constructed above or below). This industry includes establishments responsible for additions and alterations to mobile homes and on-site assembly of modular and prefabricated houses. Establishments identified as single family construction management firms are also included in this industry. Establishments in this industry may perform work for others or on their own account for sale as speculative or operative builders. Kinds of establishments include single family housing custom builders, general contractors, design builders, engineer-constructors, joint-venture contractors, and turnkey contractors.

The data published with NAICS code 233210 include the following SIC industries:

1521 General contractors—single-family houses  
1531 Operative builders (pt)  
8741 Management services (pt)

#### **23322 Multifamily Housing Construction**

This industry comprises establishments primarily responsible for the entire construction (i.e., new work, additions, alterations, and repairs) of multifamily residential housing units (e.g., highrise, garden, and town house apartments where each unit is not separated by a ground-to-roof wall). The units may be constructed for sale as condominiums or cooperatives, or for rental as apartments. Establishments identified as multifamily construction management firms are also included in this industry. Establishments in this industry may perform work for others or on their own account for sale as speculative or operative builders. Kinds of establishments include multifamily housing general contractors, design builders, engineer-constructors, joint-venture contractors, and turnkey contractors.

#### **233220 Multifamily Housing Construction**

This U.S. industry comprises establishments primarily responsible for the entire construction (i.e., new work, additions, alterations, and repairs) of multifamily residential housing units (e.g., highrise, garden, and town house apartments where each unit is not separated by a ground-to-roof wall). The units may be constructed for sale as condominiums or cooperatives, or for rental as apartments. Establishments identified as multifamily construction management firms are also included in this industry. Establishments in this industry may perform work for others or on their own account for sale as speculative or operative builders. Kinds of establishments include multifamily housing general contractors, design builders, engineer-constructors, joint-venture contractors, and turnkey contractors.

The data published with NAICS code 233220 include the following SIC industries:

1522 General contractors—residential buildings, other than single-family (pt)  
1531 Operative builders (pt)  
8741 Management services (pt)

### **2333 Nonresidential Building Construction**

This NAICS Industry Group includes establishments classified in the following NAICS Industries: 23331, Manufacturing and Industrial Building Construction; and 23332, Commercial and Institutional Building Construction.

#### **23331 Manufacturing and Industrial Building Construction**

This industry comprises establishments primarily responsible for the entire construction (i.e., new work, additions, alterations, and repairs) of manufacturing and industrial buildings (e.g., plants, mills, factories). Establishments identified as manufacturing and industrial building construction management firms are also included in

---

this industry. Kinds of establishments include manufacturing and industrial building general contractors, design builders, engineer-constructors, joint-venture contractors, and turnkey contractors.

### **233310 Manufacturing and Industrial Building Construction**

This U.S. industry comprises establishments primarily responsible for the entire construction (i.e., new work, additions, alterations, and repairs) of manufacturing and industrial buildings (e.g., plants, mills, factories). Establishments identified as manufacturing and industrial building construction management firms are also included in this industry. Kinds of establishments include manufacturing and industrial building general contractors, design builders, engineer-constructors, joint-venture contractors, and turnkey contractors.

The data published with NAICS code 233310 include the following SIC industries:

- 1531 Operative builders (pt)
- 1541 General contractors—industrial buildings and warehouses (pt)
- 8741 Management services (pt)

### **23332 Commercial and Institutional Building Construction**

This industry comprises establishments primarily responsible for the entire construction (i.e., new work, additions, alterations, and repairs) of commercial and institutional buildings (e.g., stores, schools, hospitals office buildings, public warehouses). Establishments identified as commercial and institutional building construction management firms are also included in this industry. Kinds of establishments include commercial and institutional building general contractors, design builders, engineer-constructors, joint-venture contractors, and turnkey contractors.

### **233320 Commercial and Institutional Building Construction**

This U.S. industry comprises establishments primarily responsible for the entire construction (i.e., new work, additions, alterations, and repairs) of commercial and institutional buildings (e.g., stores, schools, hospitals office buildings, public warehouses). Establishments identified as commercial and institutional building construction management firms are also included in this industry. Kinds of establishments include commercial and institutional building general contractors, design builders, engineer-constructors, joint-venture contractors, and turnkey contractors.

The data published with NAICS code 233320 include the following SIC industries:

- 1522 General contractors—residential buildings, other than single-family (pt)
- 1531 Operative builders (pt)
- 1541 General contractors—industrial buildings and warehouses (pt)
- 1542 General contractors—nonresidential buildings, except industrial buildings and warehouses
- 8741 Management services (pt)

### **234 Heavy Construction**

Industries in the Heavy Construction subsector group establishments that engage in the construction of heavy engineering and industrial projects (except buildings), for example, highways, power plants, and pipelines. The construction work performed may include new work, reconstruction, or repairs. Establishments identified as heavy construction management firms are also included. Establishments in this subsector usually assume responsibility for entire nonbuilding projects but may subcontract some or all of the actual construction work. Special trade contractors are included in this group if they are engaged in activities primarily related to heavy construction, for example, grading for highways. Kinds of establishments include heavy construction general contractors, design builders, engineer-constructors, and joint-venture contractors.

### **2341 Highway, Street, Bridge, and Tunnel Construction**

This NAICS Industry Group includes establishments classified in the following NAICS industries: 23411, Highway and Street Construction; and 23412, Bridge and Tunnel Construction.

#### **23411 Highway and Street Construction**

This industry comprises: (1) establishments primarily responsible for the entire construction (i.e., new work, reconstruction, or repairs) of highways (except elevated), streets, roads, or airport runways; (2) establishments identified as highway and street construction management firms; and (3) establishments identified as special trade contractors engaged in performing subcontract work primarily related to highway and street construction (e.g., grading for highways, installing guardrails, public sidewalk construction). Establishments in this industry may subcontract some or all of the actual construction work. Kinds of establishments include highway and street general contractors, design builders, engineer-constructors, and joint-venture contractors.

#### **234110 Highway and Street Construction**

This U.S. industry comprises: (1) establishments primarily responsible for the entire construction (i.e., new work, reconstruction, or repairs) of highways (except elevated),

streets, roads, or airport runways; (2) establishments identified as highway and street construction management firms; and (3) establishments identified as special trade contractors engaged in performing subcontract work primarily related to highway and street construction (e.g., grading for highways, installing guardrails, public sidewalk construction). Establishments in this industry may subcontract some or all of the actual construction work. Kinds of establishments include highway and street general contractors, design builders, engineer-constructors, and joint-venture contractors.

The data published with NAICS code 234110 include the following SIC industries:

- 1611 Highway and street construction contractors, except elevated highways
- 8741 Management services (pt)

### **23412 Bridge and Tunnel Construction**

This industry comprises: (1) establishments primarily responsible for the entire construction (i.e., new work, reconstruction, or repairs) of bridges, viaducts, elevated highways, and tunnels; (2) establishments identified as bridge and tunnel construction management firms; and (3) establishments identified as special trade contractors primarily engaged in performing subcontract work related to bridge and tunnel construction. Establishments in this industry may subcontract some or all of the actual construction work. Kinds of establishments include bridge and tunnel general contractors, design builders, engineer-constructors, and joint-venture contractors.

### **234120 Bridge and Tunnel Construction**

This U.S. industry comprises: (1) establishments primarily responsible for the entire construction (i.e., new work, reconstruction, or repairs) of bridges, viaducts, elevated highways, and tunnels; (2) establishments identified as bridge and tunnel construction management firms; and (3) establishments identified as special trade contractors primarily engaged in performing subcontract work related to bridge and tunnel construction. Establishments in this industry may subcontract some or all of the actual construction work. Kinds of establishments include bridge and tunnel general contractors, design builders, engineer-constructors, and joint-venture contractors.

The data published with NAICS code 234120 include the following SIC industries:

- 1622 Bridge, tunnel, and elevated highway construction contractors
- 8741 Management services (pt)

### **2349 Other Heavy Construction**

This industry group comprises establishments primarily engaged in heavy nonbuilding construction (except highway, street, bridge, and tunnel construction).

### **23491 Water, Sewer, and Pipeline Construction**

This industry comprises: (1) establishments primarily responsible for the entire construction (i.e., new work, reconstruction, rehabilitation, or repairs) of water mains, sewers, drains, gas mains, natural gas pumping stations, and gas and oil pipelines; (2) establishments identified as water, sewer, and pipeline construction management firms; and (3) establishments identified as special trade contractors engaged in activities primarily related to water, sewer, and pipeline construction. Establishments in this industry may subcontract some or all of the actual construction work. Kinds of establishments include water, sewer, and pipeline general contractors, design builders, engineer-constructors, and joint-venture contractors.

### **234910 Water, Sewer, and Pipeline Construction**

This U.S. industry comprises: (1) establishments primarily responsible for the entire construction (i.e., new work, reconstruction, rehabilitation, or repairs) of water mains, sewers, drains, gas mains, natural gas pumping stations, and gas and oil pipelines; (2) establishments identified as water, sewer, and pipeline construction management firms; and (3) establishments identified as special trade contractors engaged in activities primarily related to water, sewer, and pipeline construction. Establishments in this industry may subcontract some or all of the actual construction work. Kinds of establishments include water, sewer, and pipeline general contractors, design builders, engineer-constructors, and joint-venture contractors.

The data published with NAICS code 234910 include the following SIC industries:

- 1623 Water, sewer, pipeline, and communications and power line construction (pt)
- 8741 Management services (pt)

### **23492 Power and Communication Transmission Line Construction**

This industry comprises: (1) establishments primarily responsible for the entire construction (i.e., new work, reconstruction, or repairs) of electric power and communication transmission lines and towers, radio and television transmitting/receiving towers, cable laying, and cable television lines; (2) establishments identified as power and communication transmission line construction management firms; and (3) establishments identified as special trade contractors engaged in activities primarily related to power and communication transmission line construction. Establishments in this industry may subcontract some or all of the actual construction work. Kinds of establishments include power and communication transmission line general contractors, design builders, engineer-constructors, and joint-venture contractors.

---

### **234920 Power and Communication Transmission Line Construction**

This U.S. industry comprises: (1) establishments primarily responsible for the entire construction (i.e., new work, reconstruction, or repairs) of electric power and communication transmission lines and towers, radio and television transmitting/receiving towers, cable laying, and cable television lines; (2) establishments identified as power and communication transmission line construction management firms; and (3) establishments identified as special trade contractors engaged in activities primarily related to power and communication transmission line construction. Establishments in this industry may subcontract some or all of the actual construction work. Kinds of establishments include power and communication transmission line general contractors, design builders, engineer-constructors, and joint-venture contractors.

The data published with NAICS code 234920 include the following SIC industries:

- 1623 Water, sewer, pipeline, and communications and power line construction (pt)
- 8741 Management services (pt)

### **23493 Industrial Nonbuilding Structure Construction**

This industry comprises: (1) establishments primarily responsible for the entire construction (i.e., new work, reconstruction, or repairs) of heavy industrial nonbuilding structures, such as chemical complexes or facilities, cement plants, petroleum refineries, industrial incinerators, ovens, kilns, power plants (except hydroelectric plants), and nuclear reactor containment structures; (2) establishments identified as industrial nonbuilding construction management firms; and (3) establishments identified as special trade contractors engaged in activities primarily related to industrial nonbuilding construction. Establishments in this industry may subcontract some or all of the actual construction work. Kinds of establishments include industrial nonbuilding general contractors, design builders, engineer-constructors, and joint-venture contractors.

### **234930 Industrial Nonbuilding Structure Construction**

This U.S. industry comprises: (1) establishments primarily responsible for the entire construction (i.e., new work, reconstruction, or repairs) of heavy industrial nonbuilding structures, such as chemical complexes or facilities, cement plants, petroleum refineries, industrial incinerators, ovens, kilns, power plants (except hydroelectric plants), and nuclear reactor containment structures; (2) establishments identified as industrial nonbuilding construction management firms; and (3) establishments identified as special trade contractors engaged in activities primarily related to industrial nonbuilding construction.

Establishments in this industry may subcontract some or all of the actual construction work. Kinds of establishments include industrial nonbuilding general contractors, design builders, engineer-constructors, and joint-venture contractors.

The data published with NAICS code 234930 include the following SIC industries:

- 1629 Heavy construction, n.e.c. (pt)
- 8741 Management services (pt)

### **23499 All Other Heavy Construction**

This industry comprises: (1) establishments primarily responsible for the entire construction (i.e., new work, reconstruction, or repairs) of heavy nonbuilding construction projects (except highway, street, bridge, tunnel, water lines, sewer lines, pipelines, power and communication transmission lines, and industrial nonbuilding structures); (2) establishments identified as all other heavy construction management firms; (3) establishments primarily engaged in construction equipment rental with an operator; and (4) establishments identified as special trade contractors engaged in activities related primarily to all other heavy construction. Typical projects constructed by establishments in this industry include athletic fields, dams, dikes, docks, drainage projects, golf courses, harbors, parks, reservoirs, canals, sewage treatment plants, water treatment plants, hydroelectric plants, subways, and other mass transit projects. Establishments in this industry may subcontract some or all of the actual construction work. Kinds of establishments include heavy construction general contractors, design builders, engineer-constructors, and joint-venture contractors.

### **234990 All Other Heavy Construction**

This U.S. industry comprises: (1) establishments primarily responsible for the entire construction (i.e., new work, reconstruction, or repairs) of heavy nonbuilding construction projects (except highway, street, bridge, tunnel, water lines, sewer lines, pipelines, power and communication transmission lines, and industrial nonbuilding structures); (2) establishments identified as all other heavy construction management firms; (3) establishments primarily engaged in construction equipment rental with an operator; and (4) establishments identified as special trade contractors engaged in activities related primarily to all other heavy construction. Typical projects constructed by establishments in this industry include athletic fields, dams, dikes, docks, drainage projects, golf courses, harbors, parks, reservoirs, canals, sewage treatment plants, water treatment plants, hydroelectric plants, subways, and other mass transit projects. Establishments in this industry may subcontract some or all of the actual construction work. Kinds of establishments include heavy construction general contractors, design builders, engineer-constructors, and joint-venture contractors.

---

The data published with NAICS code 234990 include the following SIC industries:

1629 Heavy construction, n.e.c. (pt)

7353 Heavy construction equipment, rental and leasing (pt)

8741 Management services (pt)

### **235 Special Trade Contractors**

Industries in the Special Trade Contractors subsector engage in specialized construction activities, such as plumbing, painting, and electrical work. Those establishments that engage in activities primarily related to heavy construction, such as grading for highways, are classified in Subsector 234, Heavy Construction. The activities of this subsector may be subcontracted from builders or general contractors or it may be performed directly for project owners. The construction work performed may include new work, additions, alterations, or maintenance and repairs. Special trade contractors usually perform most of their work at the job site, although they may have shops where they perform prefabrication and other work.

#### **2351 Plumbing, Heating, and Air-Conditioning Contractors**

This NAICS Industry Group includes establishments classified in NAICS Industry 23511, Plumbing, Heating, and Air-Conditioning Contractors.

##### **23511 Plumbing, Heating, and Air-Conditioning Contractors**

This industry comprises establishments primarily engaged in one or more of the following: (1) installing plumbing, heating, and air-conditioning equipment; (2) servicing plumbing, heating, and air-conditioning equipment; and (3) the combined activity of selling and installing plumbing, heating, and air-conditioning equipment. The plumbing, heating, and air-conditioning work performed includes new work, additions, alterations, and maintenance and repairs. The activities performed by these establishments range from duct fabrication and installation at the site to installation of refrigeration equipment, installation of sprinkler systems, and installation of environmental controls.

##### **235110 Plumbing, Heating, and Air-Conditioning Contractors**

This U.S. industry comprises establishments primarily engaged in one or more of the following: (1) installing plumbing, heating, and air-conditioning equipment; (2) servicing plumbing, heating, and air-conditioning equipment; and (3) the combined activity of selling and installing plumbing, heating, and air-conditioning equipment. The plumbing, heating, and air-conditioning work performed includes new work, additions, alterations, and

maintenance and repairs. The activities performed by these establishments range from duct fabrication and installation at the site to installation of refrigeration equipment, installation of sprinkler systems, and installation of environmental controls.

The data published with NAICS code 235110 include the following SIC industry:

1711 Plumbing, heating, and air-conditioning special trade contractors

This definition comes from the 1997 NAICS manual. However, for this industry, the 1997 Economic Census--Construction did not fully implement the conversion to NAICS. Data for NAICS industry 235110 do not include establishments whose primary activity is boiler cleaning. The NAICS definitions will be fully implemented with the 2002 Economic Census.

#### **2352 Painting and Wall Covering Contractors**

This NAICS Industry Group includes establishments classified in NAICS Industry 23521, Painting and Wall Covering Contractors.

##### **23521 Painting and Wall Covering Contractors**

This industry comprises establishments primarily engaged in interior or exterior painting and interior wall covering. The painting and wall covering work performed includes new work, additions, alterations, and maintenance and repairs. Activities performed by these establishments range from bridge, ship, and traffic lane painting to paint and wall covering removal.

##### **235210 Painting and Wall Covering Contractors**

This U.S. industry comprises establishments primarily engaged in interior or exterior painting and interior wall covering. The painting and wall covering work performed includes new work, additions, alterations, and maintenance and repairs. Activities performed by these establishments range from bridge, ship, and traffic lane painting to paint and wall covering removal.

The data published with NAICS code 235210 include the following SIC industries:

1721 Painting and paper hanging special trade contractors

1799 Special trade contractors, n.e.c. (pt)

#### **2353 Electrical Contractors**

This NAICS Industry Group includes establishments classified in NAICS Industry 23531, Electrical Contractors.

##### **23531 Electrical Contractors**

This industry comprises establishments primarily engaged in one or more of the following: (1) performing electrical work at the site (e.g., installing wiring); (2) servicing electrical equipment at the site; and (3) the combined activity of selling and installing electrical equipment. The electrical work performed includes new work, additions, alterations, and maintenance and repairs.

---

### **235310 Electrical Contractors**

This U.S. industry comprises establishments primarily engaged in one or more of the following: (1) performing electrical work at the site (e.g., installing wiring); (2) servicing electrical equipment at the site; and (3) the combined activity of selling and installing electrical equipment. The electrical work performed includes new work, additions, alterations, and maintenance and repairs.

The data published with NAICS code 235310 include the following SIC industry:

1731 Electrical work special trade contractors

### **2354 Masonry, Drywall, Insulation, and Tile Contractors**

This NAICS Industry Group includes establishments classified in the following NAICS Industries: 23541, Masonry and Stone Contractors; 23542, Drywall, Plastering, Acoustical, and Insulation Contractors; and 23543, Tile, Marble, Terrazzo, and Mosaic Contractors.

#### **23541 Masonry and Stone Contractors**

This industry comprises establishments primarily engaged in masonry work, stone setting, and other stone work. The masonry work, stone setting, and other stone work performed includes new work, additions, alterations, and maintenance and repairs. Activities performed by establishments in this industry range from the construction of foundations made of block, stone, or brick to glass block laying; exterior marble, granite and slate work; and tuck pointing.

#### **235410 Masonry and Stone Contractors**

This U.S. industry comprises establishments primarily engaged in masonry work, stone setting, and other stone work. The masonry work, stone setting, and other stone work performed includes new work, additions, alterations, and maintenance and repairs. Activities performed by establishments in this industry range from the construction of foundations made of block, stone, or brick to glass block laying; exterior marble, granite and slate work; and tuck pointing.

The data published with NAICS code 235410 include the following SIC industry:

1741 Masonry, stone setting, and other stone work special trade contractors

#### **23542 Drywall, Plastering, Acoustical, and Insulation Contractors**

This industry comprises establishments primarily engaged in drywall, plaster work, acoustical, and building insulation work. The drywall, plaster work, acoustical, and insulation work performed includes new work, additions,

alterations, and maintenance and repairs. Plaster work includes applying plain or ornamental plaster, including installation of lathing to receive plaster.

#### **235420 Drywall, Plastering, Acoustical, and Insulation Contractors**

This U.S. industry comprises establishments primarily engaged in drywall, plaster work, acoustical, and building insulation work. The drywall, plaster work, acoustical, and insulation work performed includes new work, additions, alterations, and maintenance and repairs. Plaster work includes applying plain or ornamental plaster, including installation of lathing to receive plaster.

The data published with NAICS code 235420 include the following SIC industries:

1742 Plastering, drywall, acoustical, and insulation work special trade contractors

1743 Terrazzo, tile, marble, and mosaic work special trade contractors (pt)

1771 Concrete work special trade contractors (pt)

#### **23543 Tile, Marble, Terrazzo, and Mosaic Contractors**

This industry comprises establishments primarily engaged in (1) setting and installing ceramic tile, marble (interior only), terrazzo, and mosaic and/or (2) mixing marble particles and cement to make terrazzo at the job site. The tile, marble, terrazzo, and mosaic work performed includes new work, additions, alterations, and maintenance and repairs.

#### **235430 Tile, Marble, Terrazzo, and Mosaic Contractors**

This U.S. industry comprises establishments primarily engaged in (1) setting and installing ceramic tile, marble (interior only), terrazzo, and mosaic and/or (2) mixing marble particles and cement to make terrazzo at the job site. The tile, marble, terrazzo, and mosaic work performed includes new work, additions, alterations, and maintenance and repairs.

The data published with NAICS code 235430 include the following SIC industry:

1743 Terrazzo, tile, marble, and mosaic work special trade contractors (pt)

#### **2355 Carpentry and Floor Contractors**

This NAICS Industry Group includes establishments classified in the following NAICS Industries: 23551, Carpentry Contractors; and 23552, Floor Laying and Other Floor Contractors.

#### **23551 Carpentry Contractors**

This industry comprises establishments primarily engaged in framing, carpentry, and finishing work. The carpentry work performed includes new work, additions,

---

alterations, and maintenance and repairs. Activities performed by establishments in this industry range from the installation of doors and windows to paneling, steel framing work, and ship joinery.

### **235510 Carpentry Contractors**

This U.S. industry comprises establishments primarily engaged in framing, carpentry, and finishing work. The carpentry work performed includes new work, additions, alterations, and maintenance and repairs. Activities performed by establishments in this industry range from the installation of doors and windows to paneling, steel framing work, and ship joinery.

The data published with NAICS code 235510 include the following SIC industry:

1751 Carpentry work special trade contractors

### **23552 Floor Laying and Other Floor Contractors**

This industry comprises establishments primarily engaged in the installation of resilient floor tile, carpeting, linoleum, and wood or resilient flooring. The floor laying and other floor work performed includes new work, additions, alterations, and maintenance and repairs.

### **235520 Floor Laying and Other Floor Contractors**

This U.S. industry comprises establishments primarily engaged in the installation of resilient floor tile, carpeting, linoleum, and wood or resilient flooring. The floor laying and other floor work performed includes new work, additions, alterations, and maintenance and repairs.

The data published with NAICS code 235520 include the following SIC industry:

1752 Floor laying and other floor work special trade contractors, n.e.c.

### **2356 Roofing, Siding, and Sheet Metal Contractors**

This NAICS Industry Group includes establishments classified in NAICS Industry 23561, Roofing, Siding, and Sheet Metal Contractors.

#### **23561 Roofing, Siding, and Sheet Metal Contractors**

This industry comprises establishments primarily engaged in the installation of roofing, siding, sheet metal work, and roof drainage-related work, such as downspouts and gutters. Activities performed by these establishments also include treating roofs (i.e., by spraying, painting, or coating), copper smithing, tin smithing, installing skylights, installing metal ceilings, flashing, duct work, and capping. The roofing, siding, and sheet metal work performed includes new work, additions, alterations, and maintenance and repairs.

#### **235610 Roofing, Siding, and Sheet Metal Contractors**

This U.S. industry comprises establishments primarily engaged in the installation of roofing, siding, sheet metal work, and roof drainage-related work, such as downspouts and gutters. Activities performed by these establishments also include treating roofs (i.e., by spraying, painting, or coating), copper smithing, tin smithing, installing skylights, installing metal ceilings, flashing, duct work, and capping. The roofing, siding, and sheet metal work performed includes new work, additions, alterations, and maintenance and repairs.

The data published with NAICS code 235610 include the following SIC industry:

1761 Roofing, siding, and sheet metal work special trade contractors

#### **2357 Concrete Contractors**

This NAICS Industry Group includes establishments classified in NAICS Industry 23571, Concrete Contractors.

#### **23571 Concrete Contractors**

This industry comprises establishments primarily engaged in the use of concrete and asphalt to produce parking areas, building foundations, structures, and retaining walls, and in the use of all materials to produce patios, private driveways, and private walks. Activities performed by these establishments include grout and shotcrete work. The concrete work performed includes new work, additions, alterations, and maintenance and repairs.

#### **235710 Concrete Contractors**

This U.S. industry comprises establishments primarily engaged in the use of concrete and asphalt to produce parking areas, building foundations, structures, and retaining walls, and in the use of all materials to produce patios, private driveways, and private walks. Activities performed by these establishments include grout and shotcrete work. The concrete work performed includes new work, additions, alterations, and maintenance and repairs.

The data published with NAICS code 235710 include the following SIC industry:

1771 Concrete work special trade contractors (pt)

#### **2358 Water Well Drilling Contractors**

This NAICS Industry Group includes establishments classified in NAICS Industry 23581, Water Well Drilling Contractors.

#### **23581 Water Well Drilling Contractors**

This industry comprises establishments primarily engaged in drilling, tapping, and capping of water wells, and geothermal drilling. The water well drilling work performed includes new work, servicing, and maintenance and repairs.

---

### **235810 Water Well Drilling Contractors**

This U.S. industry comprises establishments primarily engaged in drilling, tapping, and capping of water wells, and geothermal drilling. The water well drilling work performed includes new work, servicing, and maintenance and repairs.

The data published with NAICS code 235810 include the following SIC industry:

1781 Water well drilling special trade contractors

### **2359 Other Special Trade Contractors**

This industry group comprises establishments primarily engaged in specialized construction activities (except plumbing, painting, electrical, masonry, drywall, insulation, tile, carpentry, flooring work, roofing, siding, sheet metal, concrete, and water well drilling).

#### **23591 Structural Steel Erection Contractors**

This industry comprises establishments primarily engaged in one or more of the following: (1) erecting metal, structural steel, and similar products of prestressed or precast concrete to produce structural elements, building exteriors, and elevator fronts; (2) setting rods, bars, rebar, mesh, and cages, to reinforce poured-in-place concrete; and (3) erecting cooling towers and metal storage tanks. The structural steel erection work performed includes new work, additions, alterations, reconstruction, and maintenance and repairs.

#### **235910 Structural Steel Erection Contractors**

This U.S. industry comprises establishments primarily engaged in one or more of the following: (1) erecting metal, structural steel, and similar products of prestressed or precast concrete to produce structural elements, building exteriors, and elevator fronts; (2) setting rods, bars, rebar, mesh, and cages, to reinforce poured-in-place concrete; and (3) erecting cooling towers and metal storage tanks. The structural steel erection work performed includes new work, additions, alterations, reconstruction, and maintenance and repairs.

The data published with NAICS code 235910 include the following SIC industry:

1791 Structural steel erection special trade contractors

#### **23592 Glass and Glazing Contractors**

This industry comprises establishments primarily engaged in installing glass (i.e., glazing work) and/or tinting glass. The glass work performed includes new work, additions, alterations, and maintenance and repairs. 235920 Glass and Glazing Contractors This U.S. industry comprises establishments primarily engaged in installing

glass (i.e., glazing work) and/or tinting glass. The glass work performed includes new work, additions, alterations, and maintenance and repairs.

The data published with NAICS code 235920 include the following SIC industries:

1793 Glass and glazing work special trade contractors

1799 Special trade contractors, n.e.c. (pt)

#### **23593 Excavation Contractors**

This industry comprises establishments primarily engaged in preparing land for building construction. Activities performed by these establishments are drilling shafts, foundation digging, foundation drilling, and grading. The excavation work performed includes new work, additions, alterations, and repairs.

#### **235930 Excavation Contractors**

This U.S. industry comprises establishments primarily engaged in preparing land for building construction. Activities performed by these establishments are drilling shafts, foundation digging, foundation drilling, and grading. The excavation work performed includes new work, additions, alterations, and repairs.

The data published with NAICS code 235930 include the following SIC industry:

1794 Excavation work special trade contractors

#### **23594 Wrecking and Demolition Contractors**

This industry comprises establishments primarily engaged in the wrecking and demolition of buildings and other structures, including underground tank removal and the dismantling of steel oil tanks, except those for hazardous materials. The establishments engaged in wrecking and demolition work may or may not sell materials derived from demolishing operations.

#### **235940 Wrecking and Demolition Contractors**

This U.S. industry comprises establishments primarily engaged in the wrecking and demolition of buildings and other structures, including underground tank removal and the dismantling of steel oil tanks, except those for hazardous materials. The establishments engaged in wrecking and demolition work may or may not sell materials derived from demolishing operations.

The data published with NAICS code 235940 include the following SIC industry:

1795 Wrecking and demolition work special trade contractors

#### **23595 Building Equipment and Other Machinery Installation Contractors**

This industry comprises establishments primarily engaged in one or more of the following: (1) the installation or dismantling of building equipment, machinery or

---

other industrial equipment (except plumbing, heating, air conditioning or electrical equipment); (2) machine rigging; and (3) millwrighting. Types of equipment installed include automated and revolving doors, conveyor systems, dumbwaiters, dust collecting equipment, elevators, small incinerators, pneumatic tubes systems, and built-in vacuum cleaning systems. The building equipment and other machinery installation work performed includes new work, additions, alterations, and maintenance and repairs.

### **235950 Building Equipment and Other Machinery Installation Contractors**

This U.S. industry comprises establishments primarily engaged in one or more of the following: (1) the installation or dismantling of building equipment, machinery or other industrial equipment (except plumbing, heating, air conditioning or electrical equipment); (2) machine rigging; and (3) millwrighting. Types of equipment installed include automated and revolving doors, conveyor systems, dumbwaiters, dust collecting equipment, elevators, small incinerators, pneumatic tubes systems, and built-in vacuum cleaning systems. The building equipment and other machinery installation work performed includes new work, additions, alterations, and maintenance and repairs.

The data published with NAICS code 235950 include the following SIC industry:

1796 Installation or erection of building equipment, special trade contractors, n.e.c.

### **23599 All Other Special Trade Contractors**

This industry comprises establishments primarily engaged in specialized construction work, (except plumbing, painting, electrical, masonry, drywall, insulation, tile, carpentry, flooring, roofing, siding, sheet metal work, concrete work, glass and glazing, structural steel erection, excavation, wrecking and demolition, and building equipment installation work). Activities undertaken by these

establishments include constructing swimming pools and fences, house moving, waterproofing, dewatering, damp-proofing, fireproofing, and sandblasting; installing antennas, artificial turf, awnings, countertops, fire escapes, forms for poured concrete, gasoline pumps, lightning conductors, ornamental metal, shoring systems, and signs (on buildings); and specialized activities, such as bathtub refinishing, coating and glazing of concrete surfaces, gas leakage detection, insulation of pipes and boilers, mobile home site setup and tie-down, posthole digging, radon remediation, scaffolding work, and on-site welding. The other special trade work performed includes new work, additions, alterations, and maintenance and repairs.

### **235990 All Other Special Trade Contractors**

This U.S. industry comprises establishments primarily engaged in specialized construction work, (except plumbing, painting, electrical, masonry, drywall, insulation, tile, carpentry, flooring, roofing, siding, sheet metal work, concrete work, glass and glazing, structural steel erection, excavation, wrecking and demolition, and building equipment installation work). Activities undertaken by these establishments include constructing swimming pools and fences, house moving, waterproofing, dewatering, damp-proofing, fireproofing, and sandblasting; installing antennas, artificial turf, awnings, countertops, fire escapes, forms for poured concrete, gasoline pumps, lightning conductors, ornamental metal, shoring systems, and signs (on buildings); and specialized activities, such as bathtub refinishing, coating and glazing of concrete surfaces, gas leakage detection, insulation of pipes and boilers, mobile home site setup and tie-down, posthole digging, radon remediation, scaffolding work, and on-site welding. The other special trade work performed includes new work, additions, alterations, and maintenance and repairs.

The data published with NAICS code 235990 include the following SIC industry:

1799 Special trade contractors, n.e.c. (pt)

# Appendix C.

## Coverage and Methodology

---

### THE SAMPLE FRAME

The universe for the construction sector includes approximately 650,000 establishments. This includes only those construction establishments with at least one paid employee in 1997. Census reports were mailed to a sample of approximately 130,000 establishments.

The sample frame consisted of the entire construction universe; there were no subpopulations that were explicitly removed from the sample frame. The sample frame was compiled from a list of all construction companies in the active records of the Internal Revenue Service (IRS) and the Social Security Administration (SSA) which are subject to the payment of Federal Insurance Contributions Act taxes. Under special arrangements to safeguard their confidentiality, the U.S. Census Bureau obtains information on the location and classification of the companies, as well as their payroll and receipts data from these sources. Unfortunately, these sources do not provide establishment level information for companies with multiple locations. For multilocation companies, the establishment level information is directly obtained from the U.S. Census Bureau's Company Organization Survey.

While the IRS-SSA list usually provided sufficient classification information to assign a company to the proper economic sector, there were cases for which the information was incomplete or missing. A classification form was mailed to companies with insufficient information to be assigned to an industry. This form requested information on the nature of the company's activities. Companies determined to be in scope of the construction sector subsequent to the census mailout were treated as a supplement to the universe rather than part of the sample frame.

### SAMPLE SELECTION

The major objective of the sample design was to provide a sample that would provide reliable estimates for each state and construction industry. A stratified random sample was designed. Within each state by industry cell, six strata were defined.

- Stratum 1 was comprised of approximately 12,000 establishments of companies that had operations of any type at more than one location. These establishments of multiunit companies were included in the construction sample with certainty.
- Strata 2-6 were comprised of single-location companies. For each industry, payroll cut-offs were determined at the U.S. level and used to define the payroll ranges for each of the strata 2-6 across all states.

All establishments in stratum 2 were included in the construction sample with certainty. These consisted of the largest single-location construction companies.

For strata 3-6, a random sample of establishments was selected. The general strategy was to sample the strata containing larger establishments at a higher rate than those containing small establishments. The minimum sample rate was 1 in 20.

For five industries, the U.S. population in the sample frame was quite small. For these industries, all establishments in the sample frame were included in the sample with certainty. These industries were as follows:

- SIC 1622: Bridge, Tunnel, and Elevated Highway Construction Contractors
- SIC 1795: Wrecking and Demolition Work
- SIC 1796: Installation or Erection of Building Equipment, Not Elsewhere Classified
- SIC 7353: Equipment Rental with Operators
- SIC 8741: Construction Management

### ESTIMATION AND VARIANCES

Based on the response data, establishments were assigned to the appropriate NAICS industry. At each level of tabulation, unbiased estimates were derived by summing the weighted establishment data where the establishment sample weight was equal to the inverse of its probability of selection for the construction sample.

Variations of the estimated items were derived at the state level, industry, and by stratum using standard stratified random sample formulas. Variations were then aggregated to the publication levels for the computation of the relative standard errors.

### RELIABILITY OF THE ESTIMATES

The estimates developed from the sample can differ somewhat from the results of a survey covering all companies in the sample lists but are otherwise conducted under essentially the same conditions as the actual sample survey. The estimates of the magnitude of the sampling errors (the difference between the estimates obtained and the results theoretically obtained from a comparable, complete-coverage survey) are provided by the standard errors of estimates.

The particular sample selected for the construction sector is one of many similar probability samples that, by chance, might have been selected under the same specifications. Each of the possible samples would yield somewhat different sets of results, and the standard errors are measures of the variation of all the possible sample estimates around the theoretically, comparable, complete-coverage values.

Estimates of the standard errors have been computed from the sample data. They are presented in the form of relative standard errors which are the standard errors divided by the estimated values to which they refer.

In conjunction with its associated estimate, the relative standard error may be used to define confidence intervals, or ranges, that would include the comparable, complete-coverage value for specified percentages of all the possible samples.

The complete-coverage value would be included in the range:

- From one standard error below to one standard error above the derived estimate for about two-thirds of all possible samples.
- From two standard errors below to two standard errors above the derived estimate for about 19 out of 20 of all possible samples.
- From three standard errors below to three standard errors above the derived estimate for nearly all samples.

An inference is that the comparable complete-survey result would fall within the indicated ranges and the relative frequencies shown. Those proportions, therefore, may be interpreted as defining the confidence that the estimates from a particular sample would differ from complete-coverage results by as much as one, two, or three standard errors, respectively.

For example, suppose an estimated total is shown at 50,000 with an associated relative standard error of 2 percent, that is, a standard error of 1,000 (2 percent of 50,000). There is approximately 67 percent confidence that the interval 49,000 to 51,000 includes the complete-coverage total, about 95 percent confidence that the interval 48,000 to 52,000 includes the complete-coverage total, and almost certain confidence that the interval 47,000 to 53,000 includes the complete-coverage total.

In addition to the sample errors, the estimates are subject to various response and operational errors: errors of collection; reporting; coding; transcription; imputation for nonresponse, etc. These operational errors also would occur if a complete canvass were to be conducted under the same conditions as the survey. Explicit measures of their effects generally are not available. However, it is believed that most of the important operational errors were detected and corrected during the U.S. Census Bureau's review of the data for reasonableness and consistency. The small operational errors usually remain. To

some extent, they are compensating in the aggregated totals shown. When important operational errors were detected too late to correct the estimates, the data were suppressed or were specifically qualified in the tables.

As derived, the estimated standard errors included part of the effect of the operational errors. The total errors, which depend upon the joint effect of the sampling and operational errors, are usually of the order of size indicated by the standard error, or moderately higher. However, for particular estimates, the total error may considerably exceed the standard errors shown. Any figures shown in the tables of this publication having an associated standard error exceeding 75 percent may be combined with higher level totals, creating a broader aggregate, which then may be of acceptable reliability.

## **INDUSTRY CLASSIFICATION OF ESTABLISHMENTS**

Each establishment covered in the construction sector was classified in one of twenty eight industries in accordance with the industry definitions in the 1997 NAICS (North American Industry Classification System) manual. The U.S. Census Bureau first used NAICS to classify industries for 1997 economic census data. Prior to this the U.S. Census Bureau used SIC (Standard Industrial Classification) for industry classification. The differences between NAICS and SIC are outlined in Appendix A of the 1997 NAICS manual.

In the NAICS system, an industry is generally defined as a group of establishments that use similar processes or have similar business activities. To the extent practical, the system uses supply-based or production-oriented concepts in defining industries. The resulting group of establishments must be significant in terms of number, value added, value of business, and number of employees.

The coding system works in such a way that the definitions progressively become narrower with successive additions of numerical digits. In the construction sector for 1997, there are 3 subsectors (three-digit NAICS), 14 industry groups (four-digit NAICS), and 28 NAICS industries (five- and six-digit NAICS). The five-digit NAICS is supposed to be the level at which there is comparability with the Canadian and Mexican classification systems. However, agreement had not been reached with these countries at the time of the 1997 Economic Census regarding the classification of construction industries. The 28 five- and six-digit NAICS construction industries are the result of an expansion and a restructuring of the 26 four-digit SIC industries of 1987.

## **ESTABLISHMENT BASIS OF REPORTING**

The construction sector is conducted on an establishment basis. A construction establishment is defined as a relatively permanent office or other place of business where the usual business activities related to construction

---

are conducted. With some exceptions, a relatively permanent office is one which has been established for the management of more than one project or job and which is expected to be maintained on a continuing basis. Such establishment activities include, but are not limited to, estimating, bidding, purchasing, supervising, and operation of the actual construction work being conducted at one or more construction sites. Separate construction reports were not required for each project or construction site.

Companies with more than one construction establishment were required to submit a separate report for each establishment operated during any part of the census year. The construction sector figures represent a tabulation of records for individual establishments rather than for companies.

If an establishment was engaged in construction and one or more distinctly different lines of economic activity at the same place of business, it was requested to file a separate report for each activity, provided that the activity was of substantial size and separate records were maintained. If a separate establishment report could not be prepared for each activity, then a construction report was

requested covering all activities of that establishment providing that the value of construction work exceeded the gross receipts from each of its other activities.

### **DUPLICATION IN VALUE OF CONSTRUCTION WORK**

The aggregate of value of construction work reported by all construction establishments in each of the industry, geographic area, or other groupings contains varying amounts of duplication. This is because the construction work of one firm may be subcontracted to other construction firms and may also be included in the subcontractors' value of construction work. Also, part of the value of construction results from the use of products of nonconstruction industries as input materials. These products are counted in the nonconstruction industry as well as part of the value of construction. Value added avoids this duplication and is, for most purposes, the best measure for comparing the relative economic importance of industries or geographic areas. Value added for construction industries is defined as the dollar value of business done less costs for construction work subcontracted to others and payments for materials, components, supplies, and fuels.

## Appendix D. Geographic Notes

---

Not applicable for this report.

# Appendix E. Metropolitan Areas

---

Not applicable for this report.

# Appendix F.

## Detailed SIC Code Titles: 1997

[The SIC code title shown in Table 1 is a standard SIC title from the Standard Industrial Classification Manual. A more detailed title description for the SIC code shown in Table 1 is included in this appendix]

| SIC code  | Detailed industry title description  | SIC code  | Detailed industry title description   |
|-----------|--|-----------|---|
| <b>15</b> | <b>GENERAL BUILDING CONTRACTORS</b>  | <b>17</b> | <b>SPECIAL TRADE CONTRACTORS (EXCLUDING LEAD PAINT REMOVAL AND ASBESTOS ABATEMENT)—Con.</b>             |
| 152100    | General contractors—single-family houses   | 175100    | Carpentry work  |
| 152210    | General contractors—hotel and motel construction   | 175200    | Floor laying and other floor work, n.e.c  |
| 152220    | General contractors—residential buildings, other than single-family, except hotel and motel construction | 176100    | Roofing, siding, and sheet metal work   |
| 153110    | Operative builders, single-family housing construction   | 177110    | Stucco construction   |
| 153120    | Operative builders, multifamily housing construction   | 177120    | Concrete work, except stucco construction   |
| 153130    | Operative builders, manufacturing and light industrial building construction                             | 178100    | Water well drilling   |
| 153140    | Operative builders, commercial and institutional building construction                                   | 179100    | Structural steel erection   |
| 154110    | General contractors—commercial warehouse construction  | 179300    | Glass and glazing work  |
| 154120    | General contractors—industrial buildings and warehouse construction                                      | 179400    | Excavation work   |
| 154200    | General contractors—nonresidential buildings, other than industrial buildings and warehouses             | 179500    | Wrecking and demolition work  |
|           |  | 179600    | Installation or erection of building equipment, n.e.c   |
|           |  | 179910    | Paint and wallpaper stripping and wallpaper removal contractors   |
|           |  | 179920    | Tinting glass contractors   |
|           |  | 179940    | All other special trade contractors   |
| <b>16</b> | <b>HEAVY CONSTRUCTION OTHER THAN BUILDING CONSTRUCTION</b>   | <b>65</b> | <b>REAL ESTATE—CONSTRUCTION LAND SUBDIVIDERS AND DEVELOPERS</b>   |
| 161100    | Highway and street construction, except elevated highways  | 655200    | Land subdividers and developers, except cemeteries  |
| 162200    | Bridge, tunnel, and elevated highway construction  | <b>73</b> | <b>BUSINESS SERVICES—CONSTRUCTION EQUIPMENT RENTAL AND LEASING, WITH OPERATOR</b>                       |
| 162310    | Water, sewer, and pipeline construction  | 735320    | Heavy construction equipment rental and leasing, with operator  |
| 162320    | Power and communication transmission line construction   | <b>87</b> | <b>ENGINEERING AND MANAGEMENT SERVICES—CONSTRUCTION MANAGEMENT FOR BUILDINGS AND HEAVY CONSTRUCTION</b> |
| 162910    | Industrial nonbuilding construction  | 874121    | Construction management—single-family housing construction  |
| 162920    | Other heavy construction   | 874122    | Construction management—multifamily housing construction  |
| <b>17</b> | <b>SPECIAL TRADE CONTRACTORS (EXCLUDING LEAD PAINT REMOVAL AND ASBESTOS ABATEMENT)</b>                   | 874123    | Construction management—manufacturing and industrial building construction                              |
| 171100    | Plumbing, heating, and air-conditioning  | 874124    | Construction management—commercial and institutional building construction                              |
| 172100    | Painting and paper hanging   | 874131    | Construction management—highway and street construction   |
| 173100    | Electrical work  | 874132    | Construction management—bridge and tunnel construction  |
| 174100    | Masonry, stone setting, and other stone work   | 874133    | Construction management—water, sewer, and pipeline construction   |
| 174200    | Plastering, drywall, acoustical, and insulation work   | 874134    | Construction management—power and communication transmission line construction                          |
| 174310    | Fresco work  | 874135    | Construction management—industrial nonbuilding construction   |
| 174320    | Terrazzo, tile, marble, and mosaic work, except fresco work  | 874136    | Construction management—all other heavy construction  |

